

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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THE RAILWAY STRIKE

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DIARY OF FORTHCOMING EVENTS.

Club Secretaries and others desirous of announcing the date of important fixtures are invited to send particulars for inclusion in the following list:

Oct. 5 ... Aviation Meeting at Barcelona.
Nov. ... Entrance Examination for R.A.F. College.
Dec. 19 to ... Paris Aero Show.
Jan. 4, 1920.

EDITORIAL COMMENT



The Railway Strike

It is in no whit an exaggeration to say that, as a consequence of the insane action of a handful of extremists, the country is faced with a crisis only second in magnitude and gravity to that of the War itself. We can ignore for the moment the more controversial aspects of the demands formulated by the railwaymen's leaders, no matter what there is to be said for their point of view in so far as concerns the precise terms of the wages adjustments they were demanding. On the other hand, there was the point of view of the taxpayer to be taken into account. The railways are working at a huge loss, and it is the unfortunate taxpayer who has had to make good that loss, partly by way of direct taxation to adjust the Government accounts with the railway companies and partly by way of increased fares and rates. Obviously there must arise points of friction when two such conflicting sets of interests are to be discussed, and we may even, for the sake of argument, allow that, later on, it might have been necessary for one side or the other to proceed to extreme action. But in this case there was not an atom of need for undue haste. The existing wages agreement has another three months to run, which is surely a long enough period for negotiation and possible settlement of the points at issue. It did not suit the book of Messrs. Thomas, Cramp, Smillie and Co. to negotiate. It must be perfectly obvious to any thinking person that these gentry had already determined to paralyse the whole of the railway communications of the country before they entered into conference with the Government. They had deliberately determined, for their own sinister ends, to make the attempt to starve the community into submission to their terms. In other words, they went into the conference room with the fixed resolution to apply to the country the most extreme methods of their pattern, the Hun—in some cases it might be true to say, their paymaster. They recked nothing of the disaster they would almost assuredly bring upon the trade of the

country, striving, as it is, to recover from the effects of five years of devastating war. They cared nothing for the suffering they would cause to their millions of fellow workers, deprived of the means of getting to and from their labour, or for the privations to be borne by women and children already sufficiently debilitated by the sufferings of war. They had determined to declare war on the community, and they have so declared war. Well, the community has accepted the gage of battle, and we shall see the result. What that result will be we have not the remotest shadow of a doubt. This is a bad country to fight, as many have found to their costly undoing. When the British people have made up their minds to see a fight through to a finish—as they most certainly have in this case—they will see it through, and the leaders of the present strike may gather what comfort they can from the reflection that this country has never been beaten yet. Nor will it be beaten now. That an eightieth of the population—which is just about the proportion the N.U.R. membership bears to the total—should be able to hold up the rest and impose its will upon Government and people is not only unthinkable, it is absolutely grotesque, and that is what the railwaymen will, to their lasting sorrow, discover before many more days or weeks have passed.

The Virtue of Agreements

The Prime Minister has quite rightly described the strike as the outcome of an "anarchist conspiracy." That has been queried by Mr. Thomas, who poses as the leader of the misguided strikers. Now, he cannot have it both ways. It was only in August last that this person stated in a public speech that he believed that, "to avoid bankruptcy and national ruin, *agreements must be kept* and production increased." The question must arise whether Mr. Thomas spoke with his tongue in his cheek, having knowledge even then of what was to happen, speaking thus to disguise his real thoughts, or whether he was at the time sincere and has since fallen under the evil influence of his associates. Of the two, we believe the former explanation to be nearer the mark. We cannot but recollect that after the last sectional railway strike a few months ago this leader resigned his secretaryship of the N.U.R., ostensibly in protest against the irresponsible use of the strike weapon. He withdrew his resignation after having received satisfactory assurances that these things should not happen again. Now, if he felt so strongly in these matters, it was certainly open to him to have resigned again sooner than to plunge the country into an unnecessary crisis such as exists now. The plain inference to be drawn is that all along he had determined on the action now taken, and deprecated the sectional strike as too precipitate and likely to inflame public opinion before he and his fellow conspirators were ready for the great *coup*.

There is virtue in agreements where both parties to them are prepared to respect their terms. Thomas, only a month ago, professed to be the champion of such respect, but we now find him taking the lead in their repudiation. We do not hesitate to say that such leaders, commanding as they do the obedience of tens of thousands of workers, should be dealt with to the utmost rigour of the law. Traitors they are every bit as much as the

miserable wretches who sell information to the enemy in time of war, and a common fate should be their portion, as well as that of the foreign agitators who are known to stand behind most of the labour troubles which have been rife during and since the War.

Road and Aerial Transport to Break the Strike

This is no ordinary dispute between employers and employed, but a deliberate attempt at revolution. We use the last word advisedly, because, if the strike should succeed, it means that for all time we are to have substituted for rule by the majority of the people the tyranny of a Terrorist junta which knows no law but its own desires. If that is not revolution, then we are at a loss to define the meaning of the word. This being so, the Government is most absolutely right in marshalling to the aid of the community the whole resources of the nation in order to break down this wholly iniquitous strike. No Government could fail to do this and live for a month. Fortunately, the Government has had prevision of events, and has been preparing for the emergency for months past, with the result that all the organisation for feeding the people and for keeping alive essential services is ready and to hand. Food distribution and the conveyance of troops and material are being undertaken by motor transport. Urgent mails, as well as a number of passenger services, are being taken by aeroplane, whereby the rigours of the situation are being vastly alleviated. It scarcely needs to be pointed out that were it not for the development in aerial and motor road transport brought about by the War, the fight between the forces of law and order and those of disruptive anarchy would be far more strenuous, and, truth to tell, would be waged with the initial advantage on the side of the extremists. Without adequate transport, the boast of the railway leaders that they would starve England to her knees in a week would have had a perilous amount of truth in it. As it is, these men have acted in apparent ignorance of the enormous potentialities now possessed by other forms of transport than the railways. By their aid we can carry on all the essentials of civilised life, and, if need be, can fight right through the winter. It is for the misleaders of their fellows to say whether they are as well situated. There is no need for them to answer the implied question—we know they are not, and that in a straight fight with the community they must lose—and, be it said, the sooner they admit the patent fact and return to sanity and work the less bitter will their reckoning be.

The Use of the Boycott

The strikers have deliberately chosen to adopt the weapon of the boycott. They have a quarrel with the community, and they say, in effect, "Until you give us all we ask we shall boycott you. We refuse to carry you or your goods, and we shall do our utmost to prevent you from securing food to keep body and soul together." Very well. Then let the same methods be applied to themselves. That would drive home to them as nothing else would the fact that the general mass of public opinion is bitterly against their action. We shall probably be told that in tendering this advice we are embittering the strife. That we deny. The strife could



Major S. HECKSTALL-SMITH, F.R.Aë.S., General Manager of the Nieuport and General Aircraft Co., Ltd.

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hardly be more bitter than it is, and all we are advocating is that the general community should meet like with like. We had to do a great many things we had not thought possible when we were engaged in a life-and-death struggle with the Huns across the North Sea. Can we afford to boggle about methods when we are faced by the Prussianism of our own Huns? We are out to win, as we were in the War, and all and every method should be employed to make the victory of law over anarchy as swift and decisive as possible. To prolong the struggle by the use of kid-glove methods is the merest foolishness, which will recoil, in the shape of additional suffering and privation, on the heads of the innocent. If there is to be any suffering, then let the worst of it fall on those who have brought about the present state of affairs.

Charting the Air

An international meteorological congress began its sittings in Paris on Tuesday last, at the invitation of the French Government. Its main duties, it is understood, were to be in the consideration of ways and means of charting the upper air in order to place aerial navigation in a position as nearly as possible to the present safety of the seas. Obviously, there are fundamental differences between the two, and it is quite impossible that we shall ever be able to obtain the same exact knowledge of air currents and the hidden dangers of the air generally as we have of those of the Seven Seas. In the one case we are dealing with a set of conditions which are more or less fixed. Ocean currents follow well-defined paths, and move, generally speaking, at a uniform and known rate. They are subject, of course, to certain variations, but these are quite relatively small, and for all practical purposes scarcely matter. In the air, on the other hand, these conditions do not obtain to anything like the same extent. True, the main air currents in high latitudes have a general direction which is more or less constant. That is to say, they have a general westerly direction, but this is subject at all times to change and even to complete reversal over greater or less periods of time. For instance, during the winter months in the North Atlantic the navigator should be able to anticipate with reasonable certainty a prevailing strong westerly wind, but it is not at all unusual for the prevailing winds to be dead easterly for a fortnight at a time. And so it is all over the world. The winds follow no set direction which can be anticipated with certainty. Nor are they directionally similar at varying altitudes. But while, as we have said, the conditions for investigation differ materially from the ocean currents, there is nevertheless a great deal of work which has to be done in the interests of aerial navigation. At the present moment the unknown dangers of the air on long-distance voyages form a serious barrier to aerial navigation as a commercial enterprise. The upper air requires exploration. This to some extent can be carried out from the surface, but in order to describe the daily happenings in the air and the effect they have on aircraft,

technical experts must be sent into the air to examine its conditions at first hand. This must be done not in one locality or along a single air route, but all over the world wherever it is contemplated that now or later on it will be requisite to run aerial services. Obviously, this is a stupendous task, and one which cannot be undertaken by any single nation as its own proper cost and outlay. It is a matter of combination of resources, and it is for the Conference of Meteorologists now sitting to formulate ideas and schemes for submission to the various States composing the League of Nations, in order that the work of charting the air, so far as it is humanly possible to carry it out, may be adequately divided according to the varying aerial interests of the countries concerned.

Against Trusts and Combines

It is with the greatest satisfaction the community will have read that a part of the Government programme for the autumn session is to devise ways and means of dealing with "trusts, combines and harmful trade combinations." The intention is expressed to collect fuller statistics of national trade, prices, costs, profits, etc., presumably with a view to legislating against the wholly immoral trust system. The Profiteering Act is so much "eye-wash." Public opinion had become so outraged by the wicked exploitation of the people that something had to be done to allay the grave unrest resulting, and that something was the Profiteering Act, which is utterly useless as a real check on the practices it is ostensibly designed to stop. Its great weakness is that it catches the small fish and allows the bigger ones to get away with virtual impunity, in spite of all that may be said to the contrary. So far as we can see, the only people it gets at are the retailers, who may not charge more for commodities than a certain "controlled" price, but it fails in practice to get at the manufacturer or the middleman. Even if it did, there would still be room for profiteering in the raw materials, which would be extremely difficult to get at. In fact, the Profiteering Act seems to be useful only as an earnest that there is a degree of sincerity in the asseverations of the Government that they are really desirous of putting a stop to the exploitation of the public by the profiteer.

There will be no real relief until trusts and combinations for the inflation of prices are made illegal and their establishment punished by imprisonment. Monetary penalties are no good at all, since they would be paid by the victims of the trusts, whereas the certain prospect of a long term of gaol would give pause to unprincipled financiers and traders who might contemplate the driving of the proverbial coach-and-four through the Anti-Trust law. Such trade combinations as we have in mind are illegal in America, which suffered for long enough under their depredations before anti-trust legislation was passed. Why, then, should we not take a leaf out of the book of the United States and make them entirely illegal here? We sincerely trust that the Government have some such course in mind.

R.A.F. Training Centres

It is understood that the R.A.F. stations at Halton Park and Uxbridge, of which the freehold has been purchased by the Government and the money that has been sunk in buildings is therefore a permanent asset to the State, are to be continued.

Halton Park, where the workshops are completed and paid for, will be the depot and technical training centre of the Royal Air Force in future for all ranks, and Uxbridge is to be the headquarters of the Southern Area, the School of Gunnery, and a concentration of various units which are at present distributed throughout the country.

The Camera and the 'Plane.

OCTOBER 2, 1919



Brighton and the Pier as seen from an Avro passenger machine.

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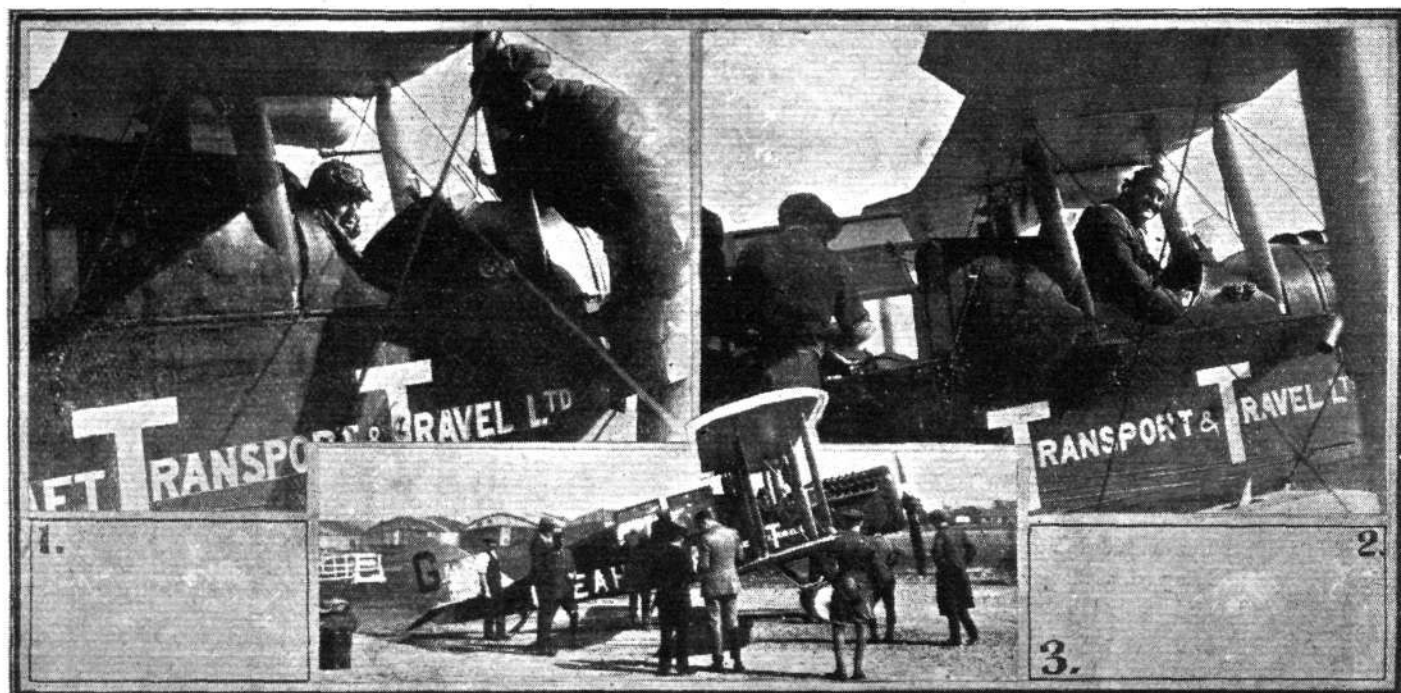


THE "ARRIVAL" OF THE REGULAR AIR SERVICE

AMONG the main criticisms levelled against commercial aviation, perhaps it may even be considered the chief one, is that of unreliability. There are those who hold the view that the aeroplane, although admitted to be the fastest mode of transport, is not yet, and, they say, probably never will be, a business man's proposition, owing to the uncertainty of running. In the first place, aero engines are liable to breakdowns, which result in forced landings, sometimes resulting in crashes, often in landings far away from other means of locomotion, and always in delay to the passengers and goods carried. The second objection is that bad weather, chiefly fog, prevents flying altogether. On the face of it, both objections sound plausible. Aero engines do break down occasionally, and very dense fog does prevent flying—sometimes. We agree that these two factors do impose obstacles in the progress of commercial aviation, but we are

it of passengers, mails, or even certain classes of goods, are so obvious that they must be patent to all.

In the case of the London-Paris service run by Aircraft Transport and Travel, Ltd., this service now extends over more than a month, and as pointed out last week, out of 56 possible flights 54 were carried out. In the case of the Handley Page service also, good regularity has been one of the features, and last week this firm's services were extended to include Brussels, while the London-Paris service is increased by a batch of French Breguet biplanes alternating with the Handley Pages, the former leaving London for Paris on Mondays, Wednesdays, and Fridays, while the Handley Pages leave London on Tuesdays, Thursdays, and Saturdays. We understand that already these services are being increased, while during the present abnormal conditions there is no doubt that others will be established. After over



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THE LONDON-PARIS AIR SERVICE: (1) Mr. M. D. Manton discussing matters with Capt. Baylis as the latter is leaving for Paris on a de H. (Airco) 4A. (2) Lieut. Eric Lawford has just arrived with the mail from Paris in a de H. (Airco) 4A. (3) The Airco 4A just before leaving for Paris.

sufficiently optimistic to think that both will be overcome in time. Fortunately, there are others besides ourselves who are of the same opinion and, what is of vastly more importance, have the courage of their convictions to the extent of setting out to prove that even at the present stage of development a commercial air service can be run, not intermittingly as conditions permit, but *regularly*. This, to our mind, is the all-important feature of the London-Paris air service, which has now been in operation for some considerable time. As already pointed out, few people deny the advantage which the aeroplane has over other means of locomotion in point of speed; the thing that is doubted is its reliability, and it is just by the proof which they furnish of very good reliability that these services are doing a tremendous amount of good in the cause of commercial aviation. Once the fact is clearly established that aviation is *not* unreliable, the advantages of aerial transport, be

a month's proof of regular running we therefore feel justified in claiming that *regular* air transport has "arrived," in other words, that it has been proved to be on a level with other means of transport as regards reliability. The whole question is chiefly one of organisation, and as experience accumulates the organisation of air services will become better and better. The start already made, although small compared with what we shall see in the future, is, we think, distinctly promising, and those responsible for it deserve the greatest credit and support.

As the first regular air services to places outside the Kingdom, the Holt Thomas and Handley Page undertakings are by way of being historic events, and hence a few notes regarding the machines employed may not be without interest.

Of the Airco machines used on the London-Paris service the three most important types are the de H. 4A, the de H. 16, and the de H. 9. As the accompany-



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 Houns low -
 Switzerland:
 Mr. Stewart
 Wortley, who is
 the Swiss repre-
 sentative of Air-
 craft Transport
 and Travel, Ltd.,
 about to leave for
 Switzerland.

ing illustrations will show, the 4A and the 16 are developments of the original Airco 4 and Airco 9A respectively.

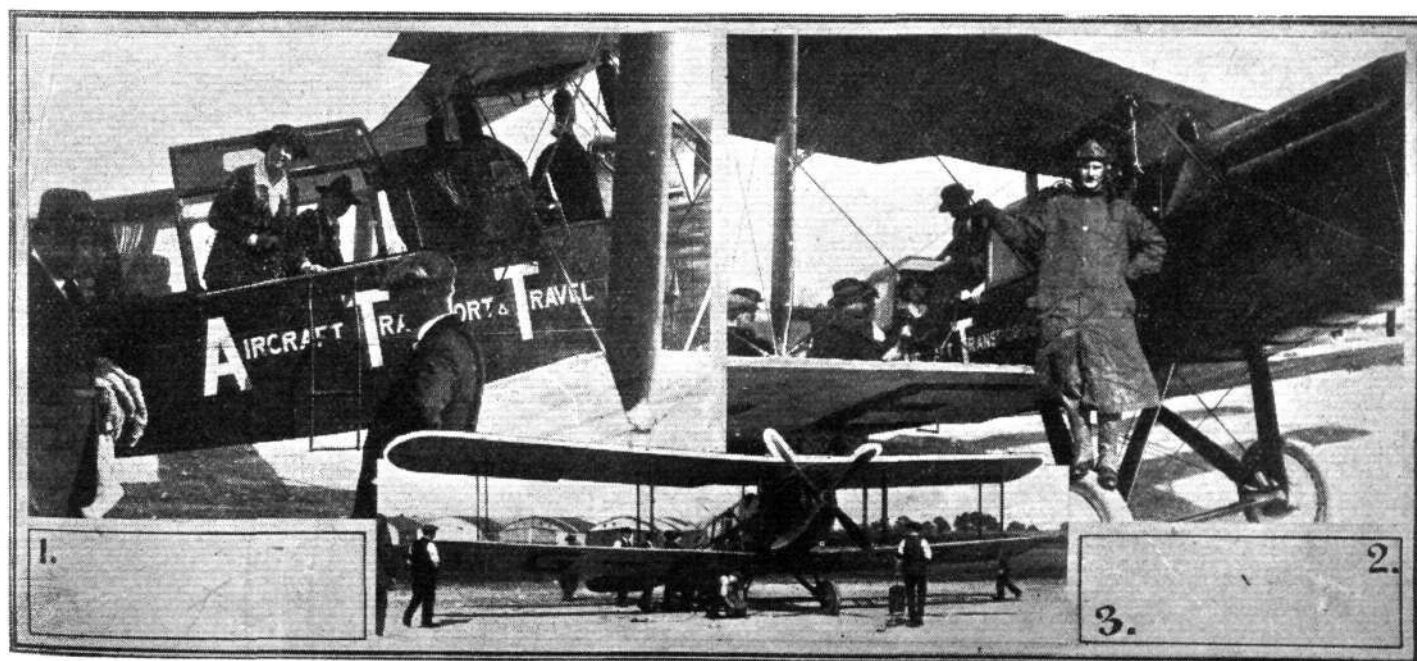
The de H. (Airco) 4A

has been altered for passenger-carrying by doing away with the stagger, and by raising the deck of the fuselage to form a roof over the cabin. The pilot occupies his original position between the planes, while the cabin is well aft, clear of the trailing edge of the wings. The two passengers face one another, the front one facing aft. Entrance to the cabin is obtained through the roof, which is hinged to fold back, and a short ladder of tubing leads up to the cabin. The engine is a Rolls-Royce "Eagle," mounted behind a nose radiator. As fitted up for the London-Paris service, the D.H.4A has a weight of 2,600 lbs. empty but including water, and with pilot, two passengers, and fuel for a 3-hours' flight, the weight "all up" is about 3,720 lbs. This gives a loading of about 8.6 lbs. per sq. ft., so that the

machine does not land at an unusually high speed, although the loading is by no means light. However, at the end of the journey the fuel will have been used up and the loading be somewhat heavier.

The D.H. (Airco) 16

is a development of the original D.H. 9A. This machine also is fitted with a Rolls-Royce "Eagle," but is of considerably greater area and carries four passengers in addition to the pilot. One of these machines was exhibited at the E.L.T.A. show at Amsterdam, when we referred to it briefly. As in the Airco 4A the pilot sits between the planes, which are, however, staggered and project, in the case of the lower one, some little distance along the sides of the cabin. In this, which is formed similarly to that of 4A, are housed four passengers. The seats are slightly staggered in relation to each other, the first passenger facing aft, the second forward, the third aft, and the fourth forward. The weight of this machine is approximately 3,000 lbs. empty but



THE LONDON-PARIS AIR SERVICE: (1) A de H. (Airco) 16 arrives from Paris, carrying, among others, Miss Edie Thomas, the American concert singer. (2) Lieut. H. Shaw descending from his Airco 16 after piloting a load of passengers safely across from Paris. (3) One of the Airco 16 machines used on the London-Paris service.

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including water, while with full load of pilot, 4 passengers, and fuel for about 3 hours, the total weight is about 4,400 lbs., or 10 lbs. per sq. ft.

In addition to the 4A and 16, a certain number of D.H.9's are also used. These are of the open type, and in the main differ from the original D.H.9 in that three seats are fitted instead of two. The engines fitted are Siddeley "Pumas."

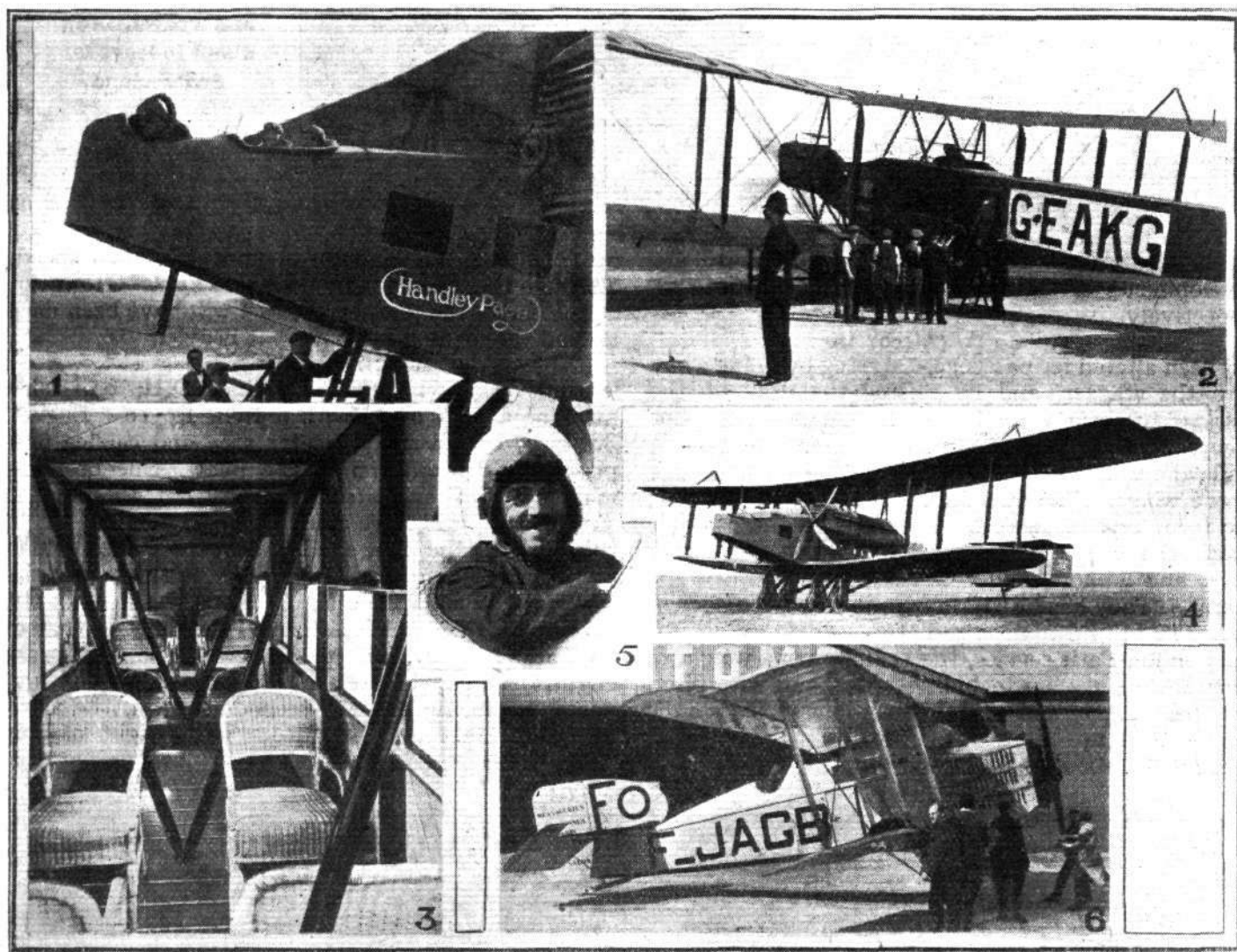
The Handley Page Machines

Both the London-Paris and the London-Brussels machines used by the Handley Page Company are of the Oo/400 type, modified, of course, to accommodate

side. Through windows in the side of the cabin an excellent view is obtained of the country over which the machine is passing. The two Rolls-Royce engines are placed between the planes, and drive each a tractor airscrew.

The Breguet Biplane

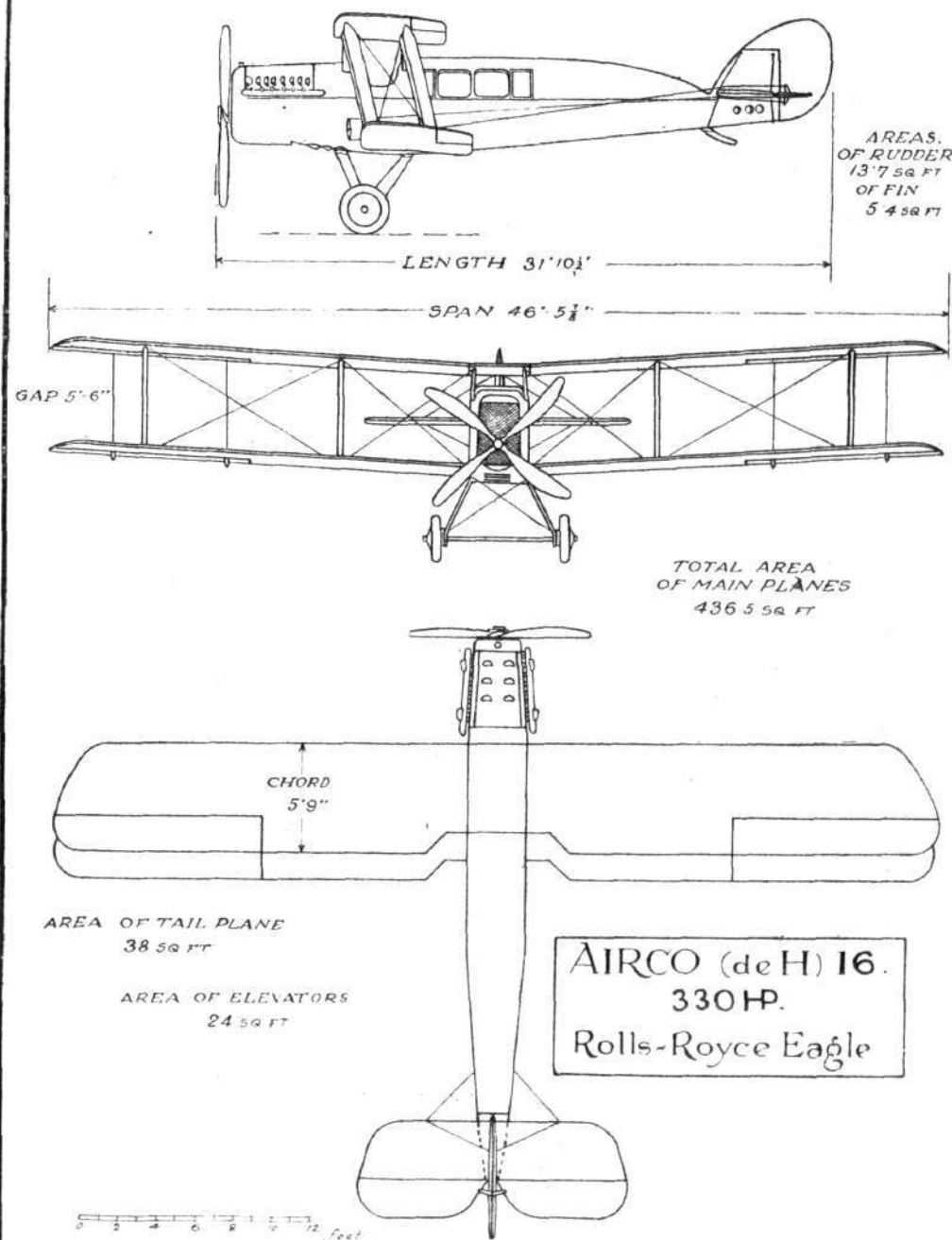
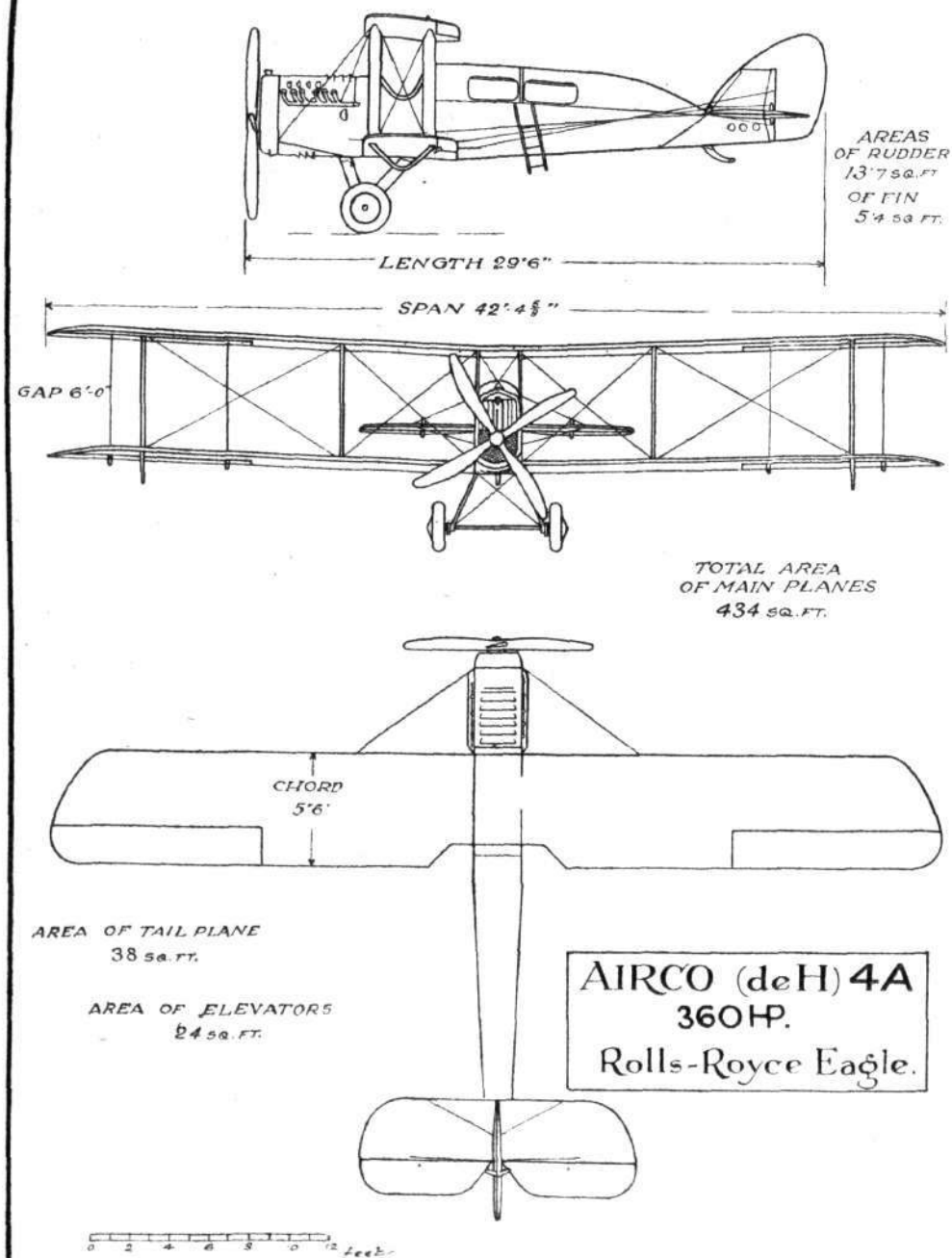
As already mentioned, the service has now been extended by the addition of a batch of French Breguet biplanes, which alternate with the Handley Pages on the London-Paris route. The Breguet biplanes used are of the single-engine tractor type, with Renault water-cooled engines. As distinct from the Airco



LONDON-PARIS AND LONDON-BRUSSELS: The Handley Page firm are now running two continental air services, one to Paris and one to Brussels. In connection with the Paris service Breguet biplanes now alternate with the Handley Pages, the British machines leaving London on Tuesday, Thursday, and Saturday, the French machines on Monday, Wednesday, and Friday. The Paris-London service is in the reverse order. Our photographs show: (1) Passengers in the nose of the Handley Page which opened the London-Brussels air service on Wednesday of last week, piloted by Capt. Shakespear. (2) Passengers entering the Handley Page. (3) The interior of the Handley Page, which carries 10 passengers and 500 lbs. of general freight. (4) The Handley Page biplane, two Rolls-Royce engines, used on the London-Paris and London-Brussels routes. (5) M. Patin, the pilot of one of the Breguet biplanes. (6) One of the Breguet biplanes alternating with the Handley Pages on the London-Paris service.

passengers instead of the "eggs" which this type used to lay on the Huns during the War. As many as 18 people can be carried, 14 inside the cabin and 4 outside. As used for the Paris and Brussels services, however, 10 passengers are carried with their luggage, and the machines have a further disposable lift of 500 lbs., which may take the form of mail, general freight, etc. The passengers' cabin is comfortably fitted out, as shown in one of the accompanying photographs, wicker seats being provided along each

machines, the pilot is placed far back in the fuselage, behind the passengers' cabin. This is entered through a door in the starboard side, and comfortable seats are provided inside. Although possibly not quite so good as that obtainable in the Aircos, the view from the cabin of the Breguet is by no means bad, in spite of the placing of the cabin farther forward in relation to the wings. Generally speaking, the Breguet may be said to be similar to the machines which did such good work in the French Air Service during the War.



THE D.H. (AIRCO) 4A AND 16 MACHINES USED ON THE LONDON-PARIS ROUTE: Plan, side and front elevations to scale.

IMPRESSIONS OF "E.L.T.A."

By Mr. R. KENWORTHY, The Blackburn Pilot

No doubt many of our readers will be interested to hear the views, on the "Elta," of Mr. R. Kenworthy, the well-known pilot of Blackburn machines, who is just back after having been in Holland for over six weeks.

As regards the Dutch themselves, his impressions were very favourable. Of course, Holland has been out of aviation to a large extent during the War, and one must allow something for this. But even so, their enthusiasm for the Elta was enormous. All classes patronised the show, and the joy flaps to an extent were fully up to the most sanguine hopes. The millionth visitor passed the turnstile a few hours before closing time. The Dutch are very good sports, and very open-handed, though Hinchcliffe's sad accident was resented rather much. In fact, the populace as a whole were very much like an English crowd at a 1913 meeting in this country.

The Dutch Court and Government also showed great interest. Both the Queen and Prince Consort visited the show, and the Services were very much in evidence. Kenworthy had the honour of giving the Secretary of State for War his very first joy ride—incidentally the only one he had time to take—and the Minister was very much pleased with it.

As regards Dutch aviation, this is very little in advance of 1913 practice. Spyker's, the big Amsterdam engineers, seem to be the only firm seriously in the field now, though one or two minor firms are alleged to have built copy machines for the Huns while the War was on. Spyker's are taking the job seriously, but show every sign of having been cut off from progress during the last five years.

The show itself was of a truly international character. France was represented by the Caudron, Breguet, Farman and twin Farman; the last being a fast machine for its size, but not capable of taking as good a percentage of useful load as similar English types. On behalf of Italy, the Caproni, S.V.A., and Fiat were there. Kenworthy speaks highly of all these as being good workmanlike jobs. Fokker turned out, but was not a great success—apart from the natural coolness with which many regarded him, the actual impression made by his exhibit was that it showed very little advance on the mid-War model.

England was well represented, though one or two prominent firms (e.g., Sopwith) made no appearance. The Avro machines had bad luck, especially in Hinchcliffe's accident, mainly owing to engine trouble. Aircraft put up a good show, though the D.H. 10 was not at all happy on the local soil—

a trouble shared by the Vimy. In fact, the aerodrome was, perhaps, the feature which hampered flying most. The Elta Committee had taken enormous trouble, but with the best efforts it still remained soft and sandy. This is a point which may have a deal of effect on Dutch aviation, as the swampiness of the country makes the provision of decent grounds very difficult—the natural result would be to give the seaplane a distinct advantage for commercial use.

The Blackburn record at Amsterdam has been satisfactory. Three Kangaroos have been out, one for six weeks, one for a fortnight, and the third for a short week, piloted respectively by Kenworthy, Woolley and Veale. They had no accident either to machines or passengers, and carried 1,400 paying passengers (roughly 40 per cent. of the total paying passengers for the 32 machines flying there), as well as numerous complementary passengers. Their record day was 90, of whom 73 were revenue passengers; this was a record for the whole show. Everyone liked the machine, and many had repetition flights. Further, while up, they showed absolute lack of nervousness; they stood up, tried to talk up wind, hung overboard to a ghastly extent. On one occasion Veale found the whole crowd standing up, so he locked the controls, turned round and had a good chat. Perhaps Veale's testimony to the machine is most valuable, because until the day before he started he had never been in a Kangaroo, and was by conviction a small-machine man. That day he took a short run round, and the next day put off from Brough, with Mrs. Veale, luggage, mechanics, etc. Today nobody can speak too well of the machine to Veale.

In all, Kenworthy covered 8,000 miles, and would have done a good deal more had not the aerodrome sand necessitated a five days' stop owing to the covering of the propellers suffering from attrition. He regarded his run home as one of the best performances—3 hours from the Elta to Lympne, and two hours from Hounslow to Brough, with a consumption of only 25 galls. per hour for the two Eagles.

The Blackburn firm report that financially they are pleased with the expedition. The receipts and expenses on the first two machines showed such a favourable balance that they judged it worth while for the third machine to go out and back for a bare week's work—and it was worth while, even after allowing an ample overhead figure. Kenworthy says that he thinks they were the only people to make an actual profit all in, but, of course, this is only an estimate.

Cross-Channel Mails, etc.

A START was made on September 29 with the air transport of mails to the Continent. Those for Paris were carried in Airco machines, and Messrs. Handley Page took the official mails to Belgium and Holland.

On Monday 12 bags left for Paris and 45 bags for Belgium and Holland via Brussels, while yesterday 31 bags were dispatched to Brussels on their way to Norway and Sweden.

Both the Airco and the H.P. services to the Continent have been doubled this week.

The records of the Customs officials at Hounslow show that since August 1, when the service started, up to midday Tuesday 111 machines had left Hounslow for the Continent, among the points to be visited being Paris, Brussels, Amsterdam, Rome and Madrid, while there had been 81 arrivals.

A Grahame White nine-seater aeroplane left Hendon with two lady passengers and a large amount of luggage. Their destination was Havre, whence they will embark for America.

Parcels for Continental Plane Post

In response to requests from a number of our readers we give the following information relating to the collection of parcels, etc., for transportation by the cross-Channel air services:—

The Handley-Page air service collects from the following addresses at 11.15 a.m. for the service starting from Hounslow at 12 noon:—

Messrs. Leopold Walford, 29, Great St. Helen's, E.C.

The Continental Daily Parcels Co., 53, Gracechurch Street, E.C.

Messrs. Carter, Paterson's offices at 128, Goswell Road, E.C., and Market Place, Oxford Street, W.

The Lep Transport and Depository, Ltd., Castle Street, Long Acre, W.C.

The American Express Co., 6, Haymarket, S.W., and 64, Queen Street, E.C.

Messrs. Lavington Brothers, 68, Old Bailey, E.C.

The Aircraft Transport and Travel (Ltd.), collect at 10.30 a.m. from the following addresses for the service starting from Hounslow at 12.30 p.m.:—

The American Express Co., 6, Haymarket, S.W., and 84, Queen Street, E.C.

Messrs. Carter, Paterson's offices at 6, Cannon Street, E.C., and at Maddox Street, Oxford Street, W.

Messrs. Hernu, Peron and Co., Ltd., 98, Queen Victoria Street, E.C.

The Lep Transport and Depository, Ltd., Castle Street, Long Acre, W.C.

Consignments should be handed in at 10.30 a.m.

Charting the Air

THE five-day conference of meteorologists of the British Dominions held last week should have far-reaching results. Sir Napier Shaw, F.R.S., Director of the Meteorological Office, and acting Controller of the Meteorological Service of the Air Ministry, presided throughout.

The conference was arranged in order to consider the problems that will come before the International Conference in Paris. Representatives were present from all the self-governing Dominions except Newfoundland, and from one Crown Colony—Ceylon.

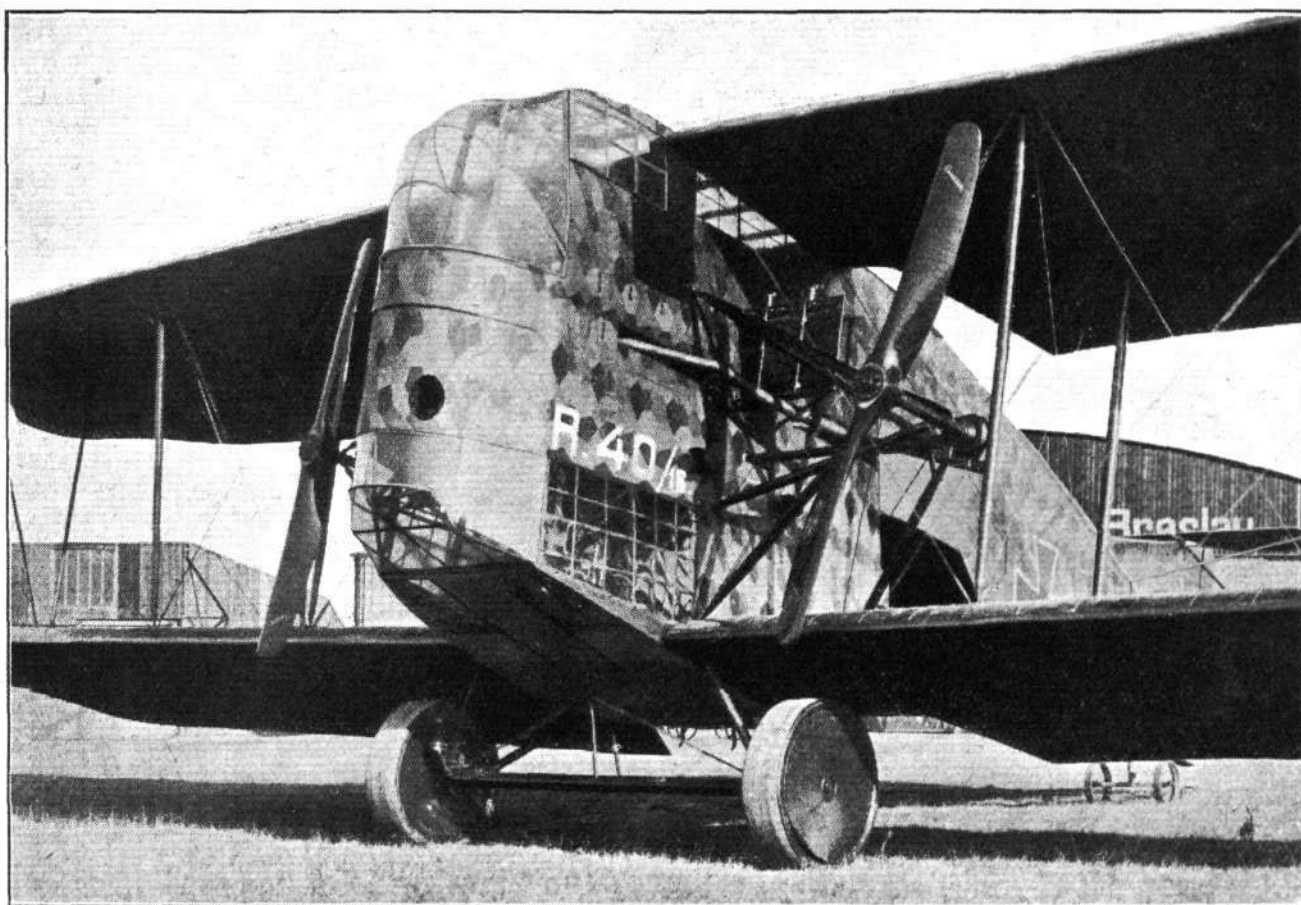
Among the subjects which have been considered are the proposed air routes from the Cape to Cairo and from Cairo to Karachi, and the opinion was expressed that the routes would be practicable from the weather standpoint.

THE LINKE-HOFMANN GIANT MACHINES

OF the firms that have designed and constructed large, multi-engined aeroplanes during the War, special interest attaches to those created by the Linke-Hofmann Works, Breslau, not only on account of their size, but also because their designer has evidently attempted to get away from the stereotyped design in which a multiplicity of engines are simply dumped on the wings and made to drive, direct, tractor or

in the *fuselage* and which had shaft and bevel drives to airscrews placed on the wings. The following notes, which are translated from a descriptive article in *Flugsport*, deal with a similar subject, and show how another firm has tackled the problem in a somewhat different way.

"The Linke-Hofmann Works, of Breslau, took up the design and construction of Giant aeroplanes



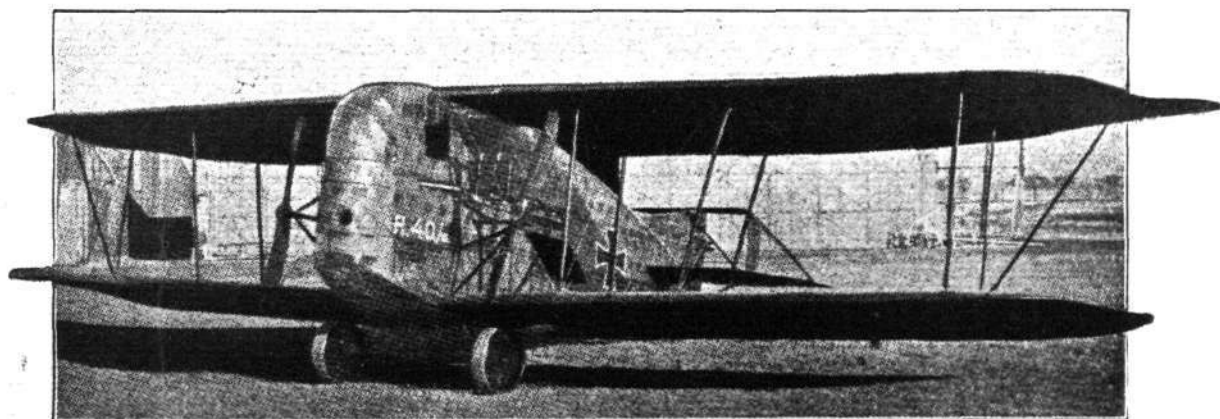
THE LINKE-HOFMANN R 1: View of the cabin and airscrew mounting.

pusher airscrews. That placing the engines on the wings in this manner is a short cut to high-power propulsion is admitted, but it does not by any means follow that this is the type of multi-engined machine that will survive. It is therefore of interest to examine what others have done in their attempts to effect improvements. In our issue of last week we published particulars of some German D.F.W. multi-engined machines in which the engines were placed

(Riesenflugzeuge) under the direction of their chief engineer Paul Stumpf, who was formerly chief engineer to the Allgemeine Elektrizitäts Gesellschaft (A.E.G.). Two types were built, the R I and the R II, both of which had the engines placed in the *fuselage*.

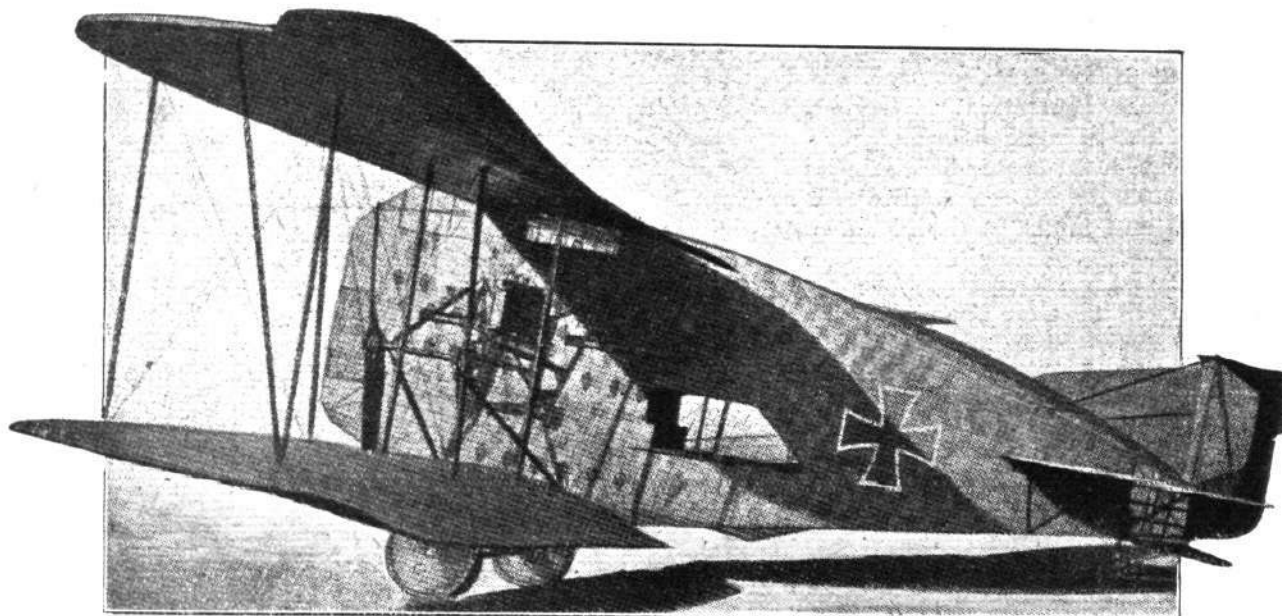
The Linke-Hofmann. Type R I.

"This machine, which is shown in the accompanying photographs, had two tractor airscrews driven by four Mercedes engines of 260 h.p. each, giving a total

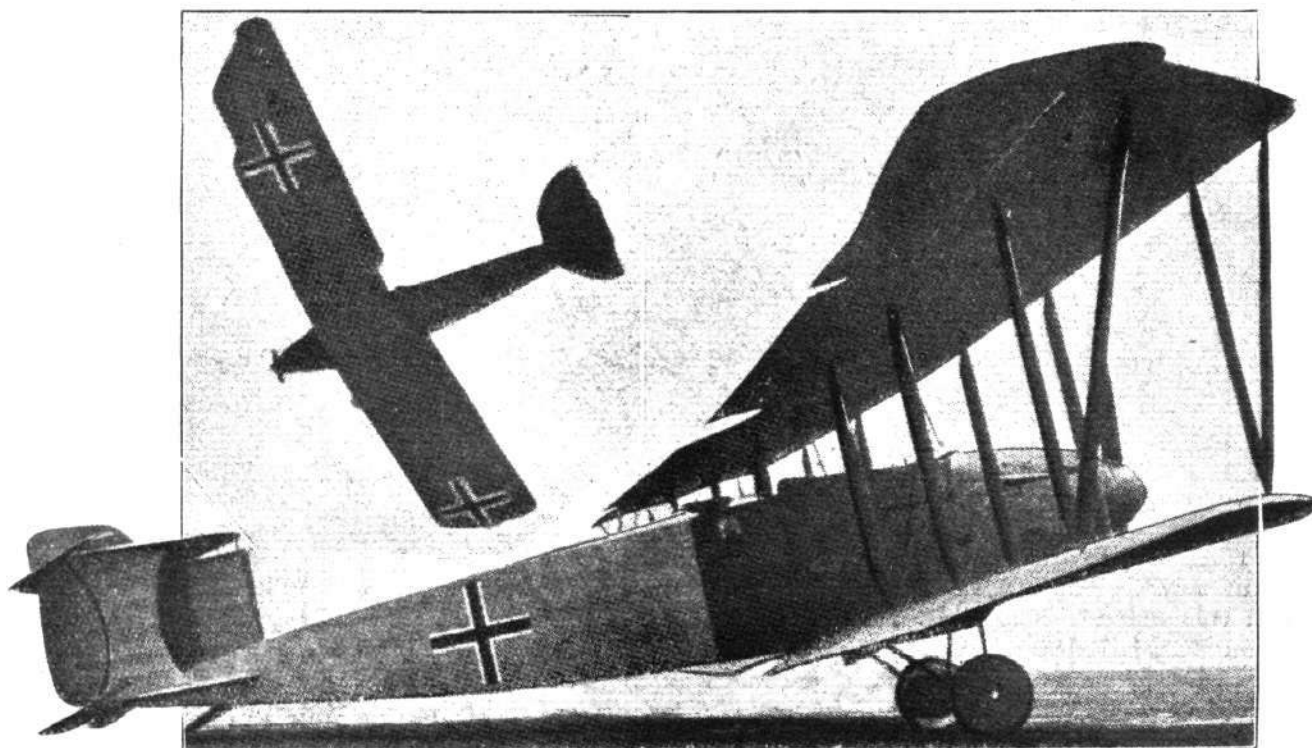


THE LINKE-HOFMANN R 1: Three-quarter front view.

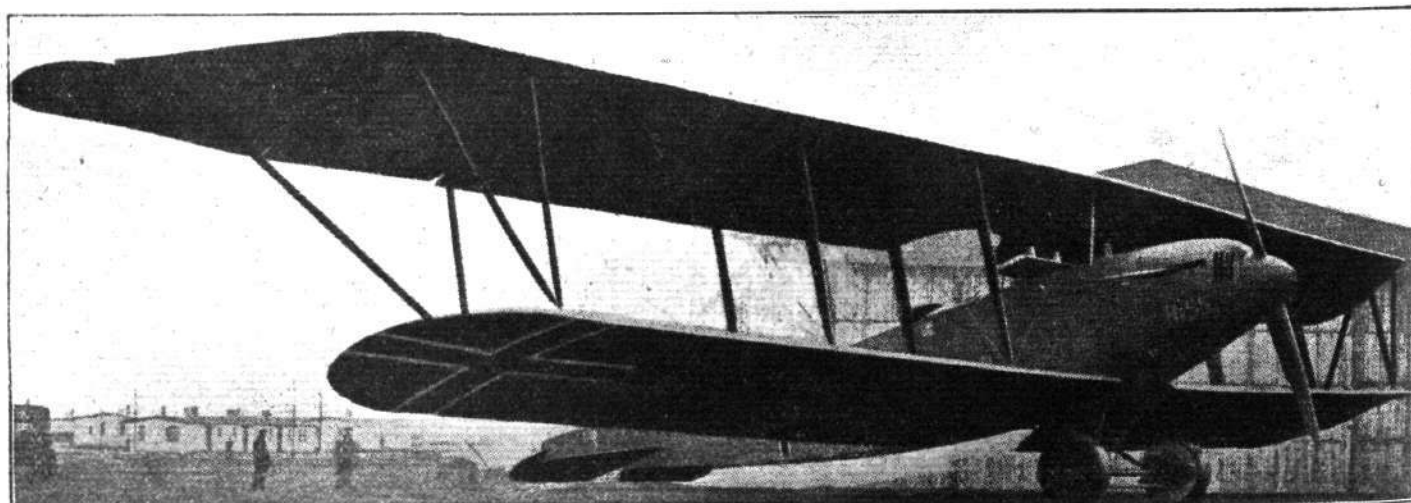
of 1,040 h.p. The dimensions and weights of the machine were as follows:—Span, 109 ft. 6 in., length o.a. 51 ft. 6 in.; chord, upper plane, 16 ft. 6 in.; chord, lower plane, 15 ft. 6 in.; height, 22 ft.; wing area,



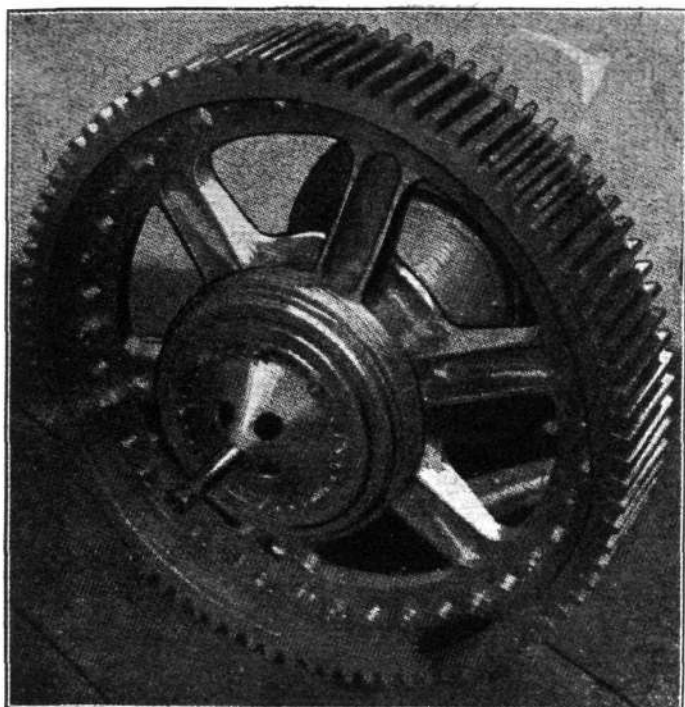
THE LINKE-HOFMANN R I: Three-quarter rear view.



THE LINKE-HOFMANN R II: Three-quarter rear view. Inset: The machine in flight.



THE LINKE-HOFMANN R II: Three-quarter front view.



THE LINKE-HOFMANN R II: The central spur wheel drive.

2,850 sq. ft.; weight empty, 17,600 lb.; useful load, 7,000 lb., including fuel for 5 hours' flight. The machine attained a speed of 80 m.p.h. and with a useful load of 7,000 lb. climbed to 9,900 ft. in 2 hours. The slow glide in which the machine landed was very peculiar. As the pilot's seat was placed very high, it required a good deal of practice to learn to land the machine successfully. The rudder and elevator control was satisfactory, but the machine was somewhat sluggish on the *ailerons*. When taxiing on the ground she answered the rudder very well.

"The effort required on the part of the pilot for rudder, elevator, and *aileron* control was little greater than in the case of a small machine, and the R I was

flown often by only one pilot. The very deep *fuselage* did not appear to have any adverse effect on either the flying or the steering of the machine. On the contrary, the machine was found to have much of the stability of the old Tauben. This was thoroughly tested during an hour's flight in a wind of 50 ft. per second.

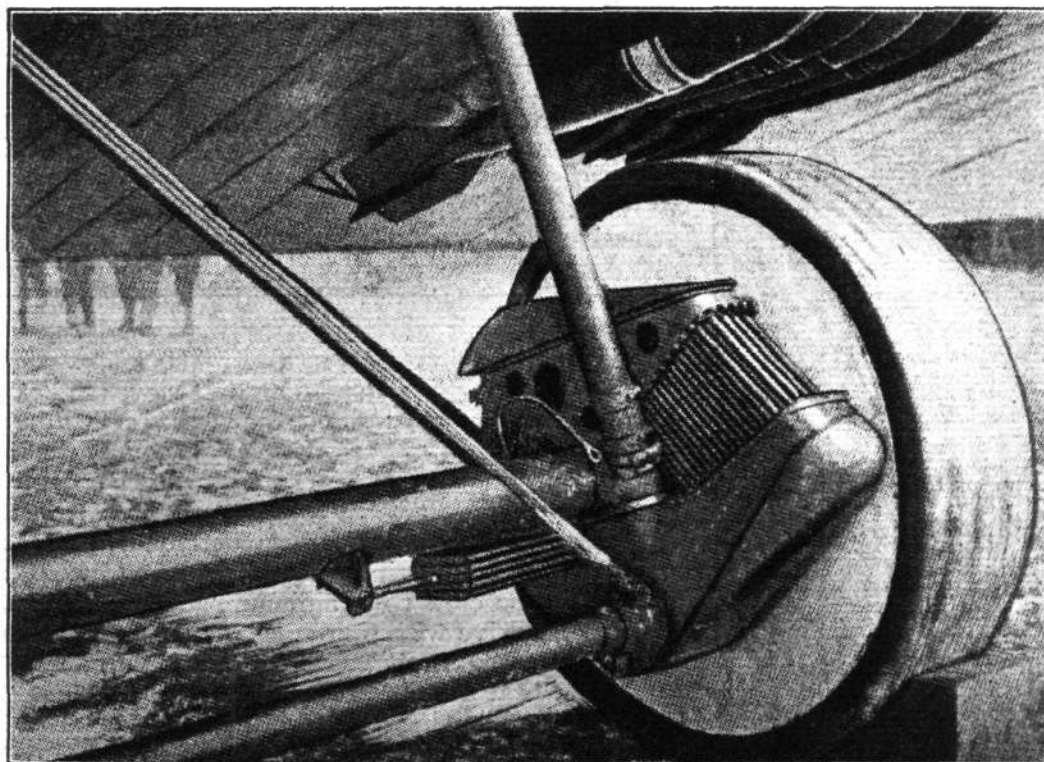
"As a result of model tests at the Göttingen laboratory, the *fuselage* was carried right up to the top plane. The increased lift resistance ratio of the complete machine which the model tests appeared to promise as a result of this deep body did not, unfortunately, materialise in the actual machine.

"The ventilation of the engine room was very good, and on account of the accessibility of the engines during flight, minor defects could easily be remedied. The undercarriage was of the same simple Vee type as that of smaller machines, and was found to be very light and at the same time strong. During a series of test flights, including a number of heavy landings, any minor defects in it were discovered and put right. The wheels were of iron, and were fitted with solid tyres.

"The experience obtained with the Linke-Hofmann R I was taken advantage of in the design of

The Linke-Hofmann, R II,

the chief feature of which was a single tractor airscrew, driven by the four 260 h.p. Mercedes engines. The main figures relating to this machine are as follows:—Span, 138 ft. 6 in.; length, 67 ft.; height, 23 ft. 6 in.; wing area, 3,440 sq. ft.; weight empty, 17,600 lb.; useful load, 9,000 lb., including fuel for 7 hours' flight. The speed was the same as that of R I, *i.e.*, 80 m.p.h.; with a useful load of 9,000 lb. the climb was 11,550 ft. in 2 hours. The airscrew, which was of 22 ft. 8 in. diameter, was driven by four Mercedes engines through a central drive. Even with only two engines running the machine flew well. For long-distance flying, by doing away with the



The Linke-Hofmann R II: View of the undercarriage, with shock-absorbers.

military loads, and with the following crew, the range can be greatly increased; 2 pilots and luggage 440 lb.; 2 engineers with luggage 440 lb.; 2 navigators with luggage 440 lb.; instruments and wireless 660 lb.; total, 1,980 lb. The machine is still capable of carrying another 13,400 lb. of fuel and oil (probably by sacrificing performance during the earlier part of the flight—Editor, *FLIGHT*), which is sufficient for a flight of 30 hours' duration at a cruising speed of 74 m.p.h., which would give it a range of 2,225 miles."

Flugsport then gives a glowing account of the ease with which the Linke-Hofmann R II starts and lands, these operations being, it is stated, quite unlike those of ordinary large machines and more like the handling of an ordinary two-seater. It is also pointed out that during flight there is a marked absence of vibration. All control organs are running in ball bearings so that they are very easy for the pilot to handle. It is said that on a cold day in January the machine was cruising round and round over the aerodrome in order not to lose itself, when one pilot put both his hands into his fur-lined boots while the other put his left hand into his pocket, the machine being steered in a circle by means of one hand. The view from the pilot's seat is said to be exceptionally good, owing to the high position, and the machine is very easy to land, partly on account of the good view, and partly because of the excellent gliding angle of the machine.

"The passengers," *Flugsport* continues, "are accommodated in an enclosed cabin behind and underneath the pilots' cockpit, this position being one of the safest in the whole machine in case of a crash. All the main weights being in front of the cabin, the safety of the passengers is assured, and in the case of the machine turning over on landing, or striking with a wing tip first, there are no heavy engines or

tanks to fall on them. At present accommodation is being provided for 12 passengers.

"The risk of fire has been reduced to a minimum by placing all petrol leads and petrol pumps underneath the floor, where they are well away from any part of the engines which might give external sparks. A thorough ventilation of engine room and tank compartment ensures that there are no petrol vapours about, and any petrol leaking out of pipes, etc., flows through the bottom of the fuselage out into the open.

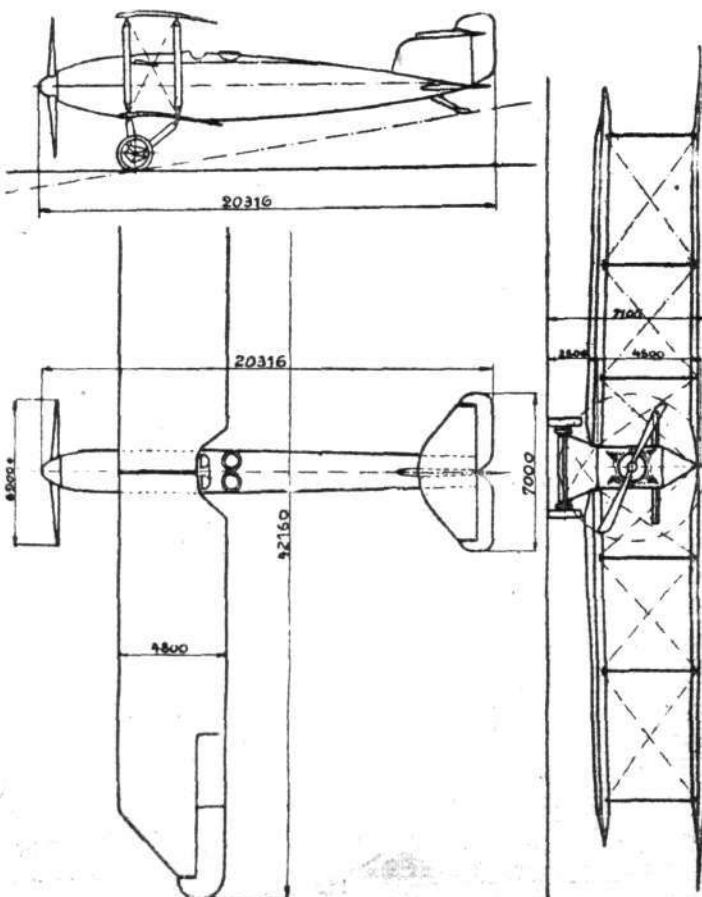
"The undercarriage, which is of the same simple Vee type as that of the Linke-Hofmann RI, has proved to be immensely strong. During a landing in the snow the wheels broke through the thin frozen crust and sank into the snow as deep as 12 in., the machine rolling over two ditches and coming to a standstill without turning over. Although the snow was shovelled away in front of the machine it was not possible to move it under its own power, and a snow plough had to be employed to get it back to its shed. According to all the experts who witnessed the landing, any other machine would have turned over. It will be seen from the above examples that the general reliability of the machine is excellent. It may further be added that not only can the machine remain in horizontal flight with only two engines running, but she has actually been known to climb on two motors. The useful load in that case was 5,300 lb.

"The advantages of multi-engined machines with only one airscrew may be summarised as follows: The propeller efficiency is very high, owing to the large diameter and slow running. The drive is of the simplest possible type, with only three spur wheels, which makes for greater reliability. The machine can continue its flight with three or even two engines running. On account of the central placing of the airscrew the danger of breakage of outrigger or inter-plane struts—in machines where the screws are so mounted—does not exist, and the head resistance is considerably smaller. The single-screw type gives less weight. For instance, a multi-engined machine with shaft drive to two airscrews on the wings has 10 spur wheels and 9 shafts. The single screw type has three spur wheels and four shafts. The engine power is only transmitted through one pair of spur wheels; whereas in the twin-screw type it is transmitted through two pairs. This alone means a gain in efficiency of 3 to 5 per cent., or in other words, a gain of 30 to 50 h.p. The large propeller has stood up to its work splendidly, while, owing to its strong construction, it is practically weather-proof.

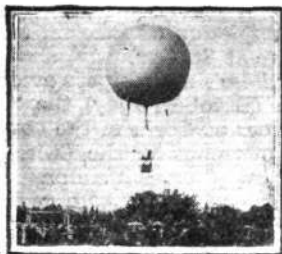
"A further great advantage is the simple two-wheeled Vee undercarriage, which gives small weight and also small air resistance. Springing is by means of steel springs instead of rubber shock absorbers. The undercarriage is absolutely reliable, even in heavy landings, with a side wind. The wheels are so large that the machine can even taxi across small ditches.

"The placing of the whole crew in the fuselage makes it possible for them to communicate with each other and to make themselves understood, which has the advantage of offering possibilities for reducing the number of the crew to a minimum. As there is only one central drive with four spur wheels, it is possible to build this so strong, without any undue addition in weight, that absolute reliability is provided.

Even after allowing for a certain amount of patriotic enthusiasm, it would appear that the Linke-Hofmann R II is really a very serious attempt at improving the existing type of multi-engined aeroplane.



THE LINKE-HOFMANN R II: General arrangement drawings.



FRENCH NAVAL AIRSHIPS

Their Development During the War

By RAFEX

IN view of the fact that the exhibition of "Airships in Peace and War," now open at the Prince's Galleries, contains a number of photographs and other exhibits of various types of French airships, the time may not be inopportune for giving a short account of the development of the French Naval Airship Service during the War, from details which have just become available.

While hostilities continued, it was naturally impossible to publish even the somewhat meagre information which reached us as to the doings of our French Allies. As, however, the French Government are taking active steps towards the development of commercial aircraft, both aeroplanes and airships, the details of what has been done in the way of design during the War are not without interest, giving, as they do, an idea of what may be expected in the future. An additional reason for giving the subject some close consideration is afforded by the fact that the Government of the United States purchased a number of airships from France; which may be expected to have an influence on Transatlantic progress and design in the future.

The French Naval Airship Service was formed in 1916, the British airship station at Marquise, near Boulogne, being taken over on January 1 in that year. Its real progress did not begin, however, until 1917, and it would not have reached its full development until the campaign of 1919.

In the early stages great assistance was derived from the collaboration of the Military Airship Service, which had been in existence for many years, and the union of the two services was rendered complete by the formation at the end of 1917 of the Under-Secretariat of State for Military and Naval Aviation.

Airship Stations

On the inception of the Service in 1916, three airship stations were commissioned: at Bizerta, Havre and Marquise; while two further stations were commenced at Rochefort and Aubagne, near Marseilles. In October of the same year a programme was laid down for the establishment of further stations at Montebourg (Cherbourg), Guipavas (Brest), Oran and Alger (both in Africa). The position was, then, at this time that nine stations were proposed, of which three only were in existence, there being one shed at each station.

In July, 1917, a further programme was approved involving the construction of stations at Paimbœuf, Arcachon, Ajaccio and Corfu. At the same time the number of sheds at most of the stations previously mentioned was doubled, the size of the new sheds being 79 ft. by 92 ft. by 492 ft. in place of the 65½ ft. by 72 ft. by 492 ft. of the earlier type. In addition, doors were provided at both ends and windscreens were fitted.

In January, 1918, the programme was again increased from 13 to 17 stations, by the laying down of a new station at Treport, the taking-over of a portion of the military stations at St. Cyr and Issy-les-Moulineaux, and the establishment of an American airship station at Brest. At the time of the Armistice, 14 out of this total of 17 stations were in commission, with 22 sheds in all; the stations at Ajaccio, Treport, and Arcachon (American) not having been completed.

Airships

At the end of 1916 there were six airships in commission:—Four scouts; three S.S. type, purchased from Great Britain, of 60,000 cub. ft. capacity, and one Zodiac of 70,000 cub. ft. which had been presented to the Service.

One "Coastal" of 170,000 cub. ft. capacity, purchased from Great Britain.

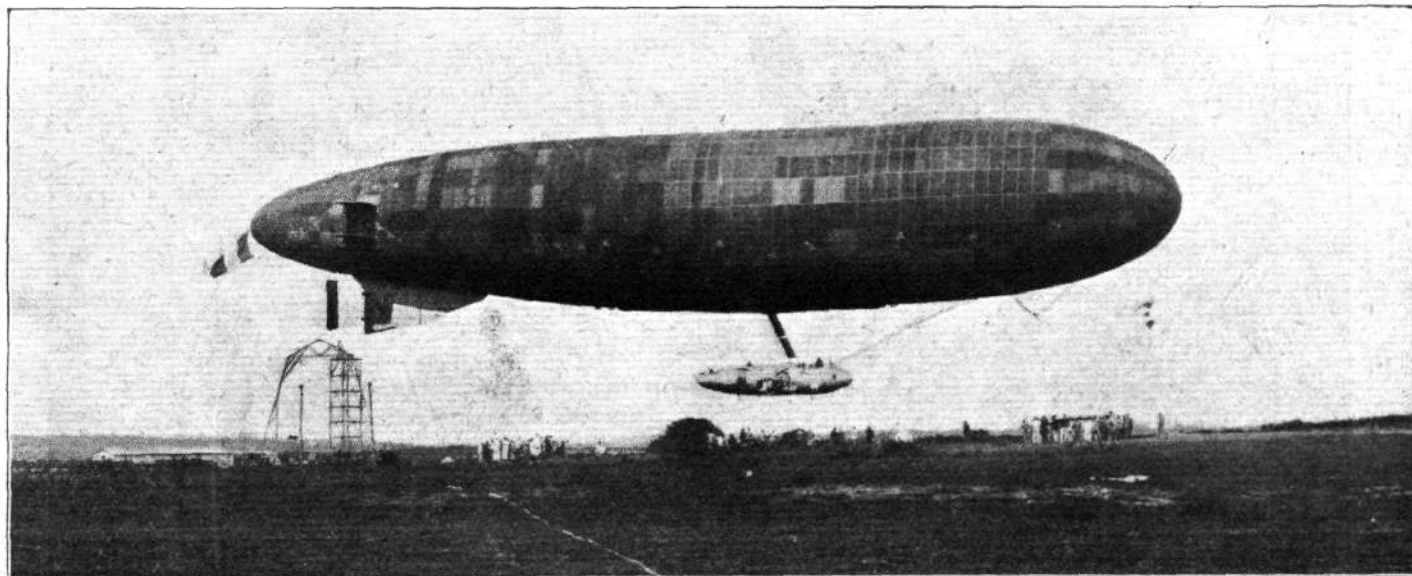
The "Tunisie" of 370,000 cub. ft. capacity, taken over from the military authorities.

This was a somewhat heterogeneous collection, and it was, therefore, decided to evolve classes of ship suitable for the particular work required of them.

The general functions for which the airships were to be used were threefold: submarine patrols, escort of convoys, location of mines. The matter was further complicated by the fact that the airships would be required to operate in different localities: in narrow seas with moderate temperatures, such as the Channel; over seas where high temperatures would be met with and of considerable width, such as the Mediterranean, and in the Atlantic for the protection of convoys of troops and munitions coming from America.

The airships for use in the Channel must be handy, numerous and fast; while their range need only be small. The following specification was evolved to fulfil these requirements:—

Engines.—Two 80 h.p. Renault.



The car of the "Capitaine Caussin."

Range.—Six hours at a full speed of 45 m.p.h., or 12 hours at cruising speed (35 m.p.h.).

Weight of bombs.—220 lbs.

Ballast.—800 lbs.

Total lift.—2,500 lbs.

This involved a capacity of 90,000 cub. ft. This "Scout" type was designed to do the work carried out by the British "S.S." of 70,000 cub. ft. capacity, but it had the advantage of being provided with two engines instead of one, which gave greater security.

Five of these scouts were ordered in 1916, and commenced operations in 1917. Ten more of the same type, ordered at the end of 1917, were put into service during 1918, while an additional eight, of slightly larger size (110,000 cub. ft.), fitted with larger engines, totalling 300 h.p., were ordered at the beginning of 1918, and began to come forward in December of the same year. These airships were known as the "V.Z." (Vedette Zodiac) type, and were numbered 1 to 23.

Counting the two British "S.S." already mentioned, and two more of the "S.S. Zero" type bought from England in 1917, France then put into commission about 20 non-rigid "Scouts" before the signing of the Armistice. These airships located and attacked, during the ten months of the 1918 campaign, about 15 submarines, in addition to their ordinary patrol and convoy work. These scouts were, however, of insufficient range for seas less narrow than the Channel, and also carried too few bombs, so a larger type was found to be necessary. For this work greater range was necessary, besides a general increase of weatherworthiness, and improved comfort for the crew.

The Zodiac scouts had been based upon the British "S.S." type, but there was in existence no prototype for the special requirements of these larger airships: Italy, for example, using her airships almost solely for bombing purposes, while the British ships were (at that time) only used for patrols near the coast-line.

Owing to the urgency of the need it was decided to appeal again to the French military authorities, pending the time when a suitable type could be evolved. In addition to the "Tunisie," which had been based upon Bizerta, the military airship service accordingly handed over six further airships in April, 1917. These were: The "Champagne" and "d'Arlandes" (500,000 cub. ft.); the "Lorraine" (370,000 cub. ft.); the "Caussin" (320,000 cub. ft.); and the "Fleurus" and "Montgolfier" (training ships of no military value).

These six airships permitted of the immediate equipment

of Corfu and Paimbœuf, the completion of Bizerta, and the establishment of a training centre at St. Cyr.

The work which was done by these six airships is evidenced by the fact that in one month (October, 1917) the "d'Arlandes" alone discovered 18 mines at Corfu in the course of her duties in escorting convoys of troops for the East.

The military establishment at Chalais-Meudon further produced, commencing from the end of 1916, four airships of 200,000 cub. ft. capacity, which were commissioned at the beginning of 1916. These were to a similar specification to the Astra airships, of which mention will be made shortly.

The Military Airship authorities thus in a period of two years provided 11 airships for the use of the Naval branch.

At the same time the Naval Service turned their attention to the evolution of airships specially designed for their purpose. In the first place, four experimental airships ("A.T." 1-4) of the Astra-Torres type were ordered from the Astra Co. of Billancourt to the following specification:—

Capacity.—230,000 cub. ft.

Engines.—Two Renault of 150 h.p. each carried on gantries.

Range.—Ten hours at full speed (50 m.p.h.) or 20 hours at cruising speed (30-35 m.p.h.).

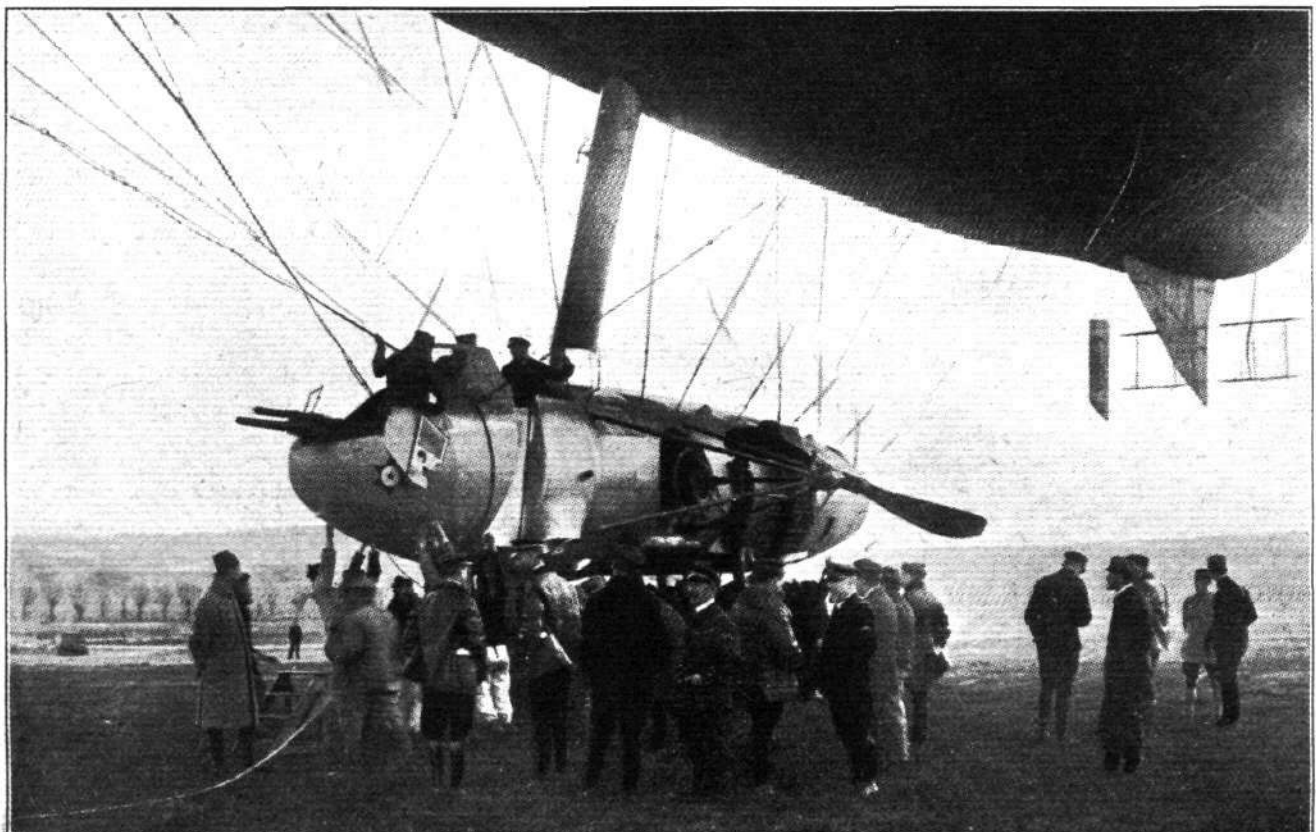
Weight of Armament.—260 lbs.

Ballast.—1,500 lbs.

It was found that the weight of bombs was insufficient, and consequently in the 10 further ships ("A.T." 5-9, of 260,000 cub. ft., and "Z.D." 1-5) ordered from the Astra and Zodiac companies respectively, in October, 1916, this was increased from 260 lbs. to 550 lbs. These 10 airships were commissioned at the end of 1917 and beginning of 1918.

It was then found that submarines were frequently able to submerge and escape before the airships could arrive in position for bombing, and it was decided to fit a 47 mm. gun with a muzzle velocity of 1,000 ft. per second. This was tried experimentally in the "Caussin," "A.T. 9" and "Z.D. 5," with such success that eight airships of 300,000 cub. ft. capacity fitted with these guns were ordered under the 1917 programme. These airships, which came into service at the beginning of 1918, carried 800 lbs. of bombs in addition to the gun and ammunition.

It was still found, however, that the German submarines of the cruiser class which had 6-inch guns could drive off attacks from these airships, and accordingly still larger airships with bigger guns and increased range were ordered. A total of 13 were commenced in 1918, due for delivery at the end of 1918 and beginning of 1919. Of these six were built by the Astra Co., three by the Zodiac Co., and four at



C.M. 1. The first of the Chalais-Meudon type airships.

Chalais-Meudon. Eight of them were sold to the American Navy.

All these airships, of which the capacity varied according to the constructor from 360,000 to 420,000 cub. ft., were built to the following specification:—

Engines.—Two of 250 h.p., each fitted on gantries.

Range.—14 hours at full speed (50 m.p.h.), or about 30 at cruising speed.

Crew.—Ten.

Armament.—75 mm. airship gun with a muzzle velocity of 880 ft. per second, and 880 lbs. of bombs.

Ballast.—1,500 to 1,800 lbs.

They were provided with an enclosed pilot's cabin fitted with windows and sleeping quarters. The first ships of this class were ready for inflation at the date of the signing of the Armistice, and they were, therefore, never actually used on service.

In conclusion, it may be recapitulated that during the War, in addition to the 20 scouts, 39 airships (23 Astra, 8 Zodiac, and 8 Chalais-Meudon) were specially built for the French Navy, of which about 25 were actually commissioned, in

addition to six bought from England and 11 taken over from the Army.

At the cessation of hostilities there were 14 airship stations in existence. More than 60 submarines were located and attacked, whilst upwards of 100 mines were destroyed. Five airships were delivered by air from Paris to Algeria, the normal duration of patrols being 12 to 15 hours. In October, 1918, "A.T. 11" carried out a flight lasting for 36 hours.

During 1917 a rigid airship of 2,000,000 cub. ft. capacity was ordered, fitted with a 75 mm. gun and to have an endurance of 20 hours at full speed (55-60 m.p.h.), while being capable of remaining in the air for three days at cruising speed. In 1918 plans were prepared for 11 more rigids of similar design, and for the building of three rigid airship stations (one on the Atlantic, and two in the Mediterranean). None of these have, however, yet appeared, though it is reported that the French Government propose to use at any rate three of them for running an experimental mail service.

For convenience of reference, the information set out above is collected in tabular form below:—

Details of French Airships

Type	V.Z. 1-15.	V.Z. 16-23.	Tunisie.	Champagne and d'Arlandes.	Lorraine.	Capitaine Caussin.	Fleurus and Montgolfier.
Capacity	90,000 c.f.	110,000 c.f.	370,000 c.f.	500,000 c.f.	370,000 c.f.	320,000 c.f.	—
Engines	2 80 h.p. Renault	2 150 h.p. Hispano	2 220 h.p. Clément	2 220 h.p. Zodiac	—	2 240 h.p. Salmson	—
Full speed	45 m.p.h.	50 m.p.h.	44 m.p.h.	44 m.p.h.	—	55 m.p.h.	—
Cruising speed	35 m.p.h.	40 m.p.h.	—	—	—	—	—
Range at full speed	6 hours	6 hours	12 hours	15 hours	—	12 hours	—
Range at cruising speed	12 hours	12 hours	—	—	—	—	—
Armament	220 lbs. bombs	220 lbs. bombs	1,760 lbs. bombs 2 47 mm. guns	2,200 lbs. bombs 1 47 mm. gun	—	1,760 lbs. bombs 1 47 mm. gun	—
Crew	3	3	7	7	—	6	—
Useful lift	2,000 lbs.	2,240 lbs.	—	—	—	—	—

Type	C.M. 1-4	A.T. 1-4	A.T. 5-9	Z.D. 1-5	A.T. 10-17	Z.D. 6-8	C.M. 5-8
Capacity	190,000 c.f.	230,000 c.f.	260,000 c.f.	217,000 c.f.	300,000 c.f.	330,000 c.f.	320,000 c.f.
Engines	2 150 h.p. Salmson	2 150 h.p. Renault	2 150 h.p. Renault	2 200 h.p. Hispano	2 200 h.p. Hispano	2 250 h.p. Renault	2 230 h.p. Salmson
Full speed	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.	50 m.p.h.
Cruising speed	30-35 m.p.h.	30-35 m.p.h.	30-35 m.p.h.	30-35 m.p.h.	—	—	—
Range at full speed	7 hours	10 hours	10 hours	10 hours	14 hours	12 hours	10 hours
Range at cruising speed	15 hours	20 hours	20 hours	20 hours	30 hours	—	—
Armament	550 lbs. bombs	260 lbs. bombs	550 lbs. bombs	550 lbs. bombs	1 75 mm. gun 880 lbs. bombs	1 75 mm. gun 1,760 lbs. bombs	1 75 mm. gun 1,320 lbs. bombs
Crew	5	5	5	5	6	10	8
Useful lift	4,500 lbs.	4,880 lbs.	5,800 lbs.	5,400 lbs.	6,900 lbs.	9,500 lbs.	8,200 lbs.

CIVILIAN LANDING GROUNDS

THE following lists of aerodromes are issued as an addition to the lists already published. It will be seen that some of the aerodromes can only be considered as possible emergency landing-grounds. These lists are purely provisional and subject to alteration or amendment from time to time.

LIST D (d).—Aerodromes licensed as suitable for "Avro (504 K) and similar types of aircraft" only. Except in very few instances accommodation does not exist. The licences have also in the majority of cases been issued for limited periods only.

Aerodrome.	Location of aerodrome.	Nearest large town.
Blackburn	Finiscliffe Bridge, Blackburn.	Blackburn.
Cathcart	Adjoins Komnishead Junction.	Glasgow.
Cheltenham	Between villages of Swindon and Uckington.	Cheltenham.
North Berwick	Adjoins railway station.	North Berwick

Walsall .. Millish Road, near Rus- Walsall.
hall Canal.

Wolverhampton Bridgnorth Road, Perton Wolverhampton

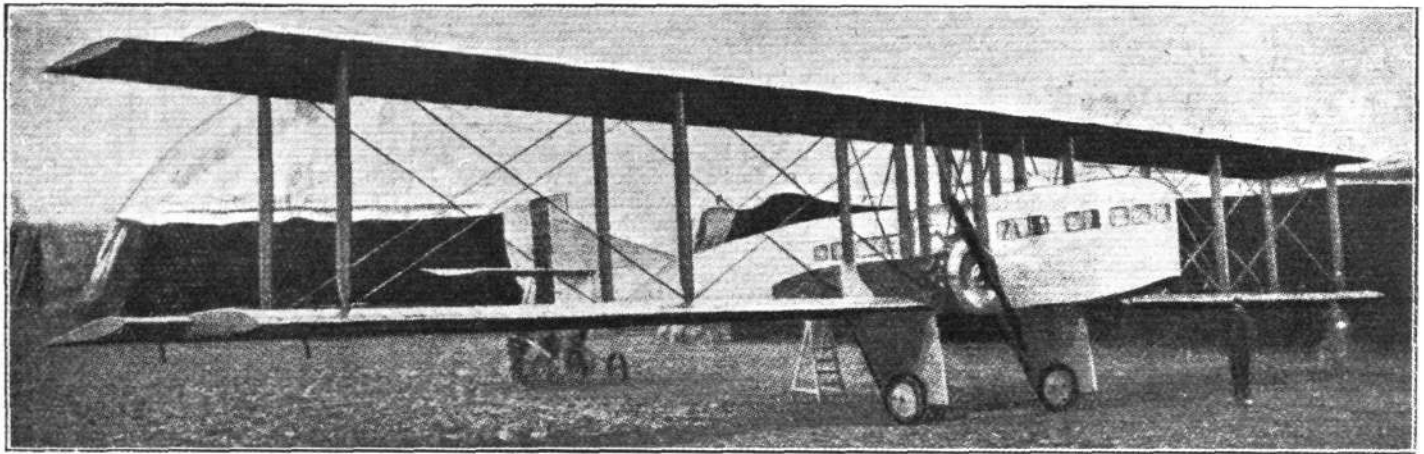
LIST E (b).—Stations no longer in use by the R.A.F.

These stations have been passed to the Government Surplus Property Disposal Board. They will be relinquished as soon as the Government property thereon has been disposed of. In many cases the aerodromes are now under cultivation, but it is probable that the sites still form the best emergency landing-grounds in the immediate neighbourhood.

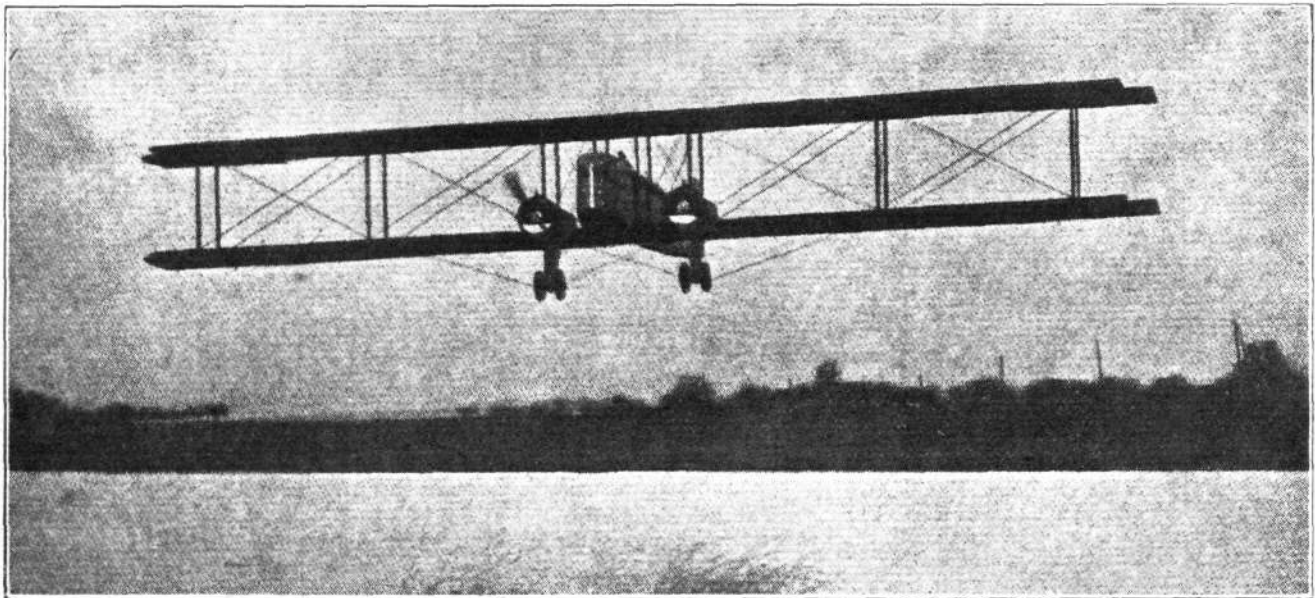
Aerodrome.	Nearest railway stations and distance in miles.	Nearest town and distance in miles.
Beverley	Beverley N.E.R. (1)	Beverley (1).
Chattis Hill	Stockbridge, L.S.W.R. (2)	Winchester (10).
Doncaster	Doncaster, N.E. and G.N.R. (1½).	Doncaster (1).
Elsham	Barnetby, G.C.R. (2½)	Barton-on-Humber (5).
Penston	Macmerry, N.B.R. (1)	Haddington (5).

THE FARMAN "GOLIATH" TYPE F-60 AEROBUS

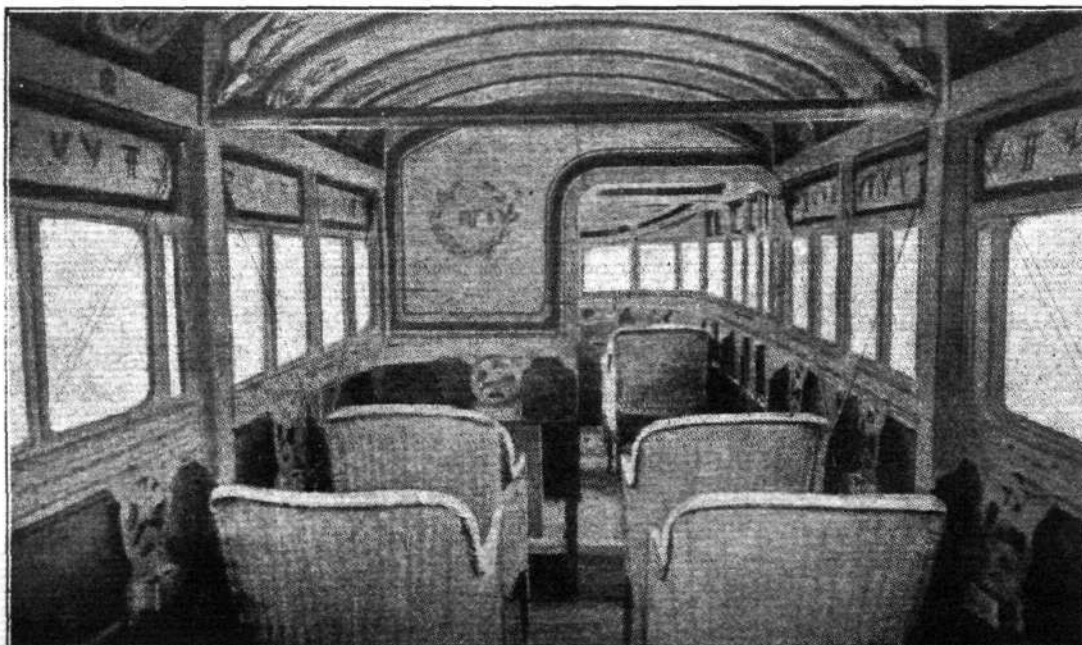
IN view of the recent exciting adventure of the Farman "Goliath," which, it will be remembered, left Paris with eight passengers on August 10 last for Dakar (some 2,800 miles), and after a record non-stop



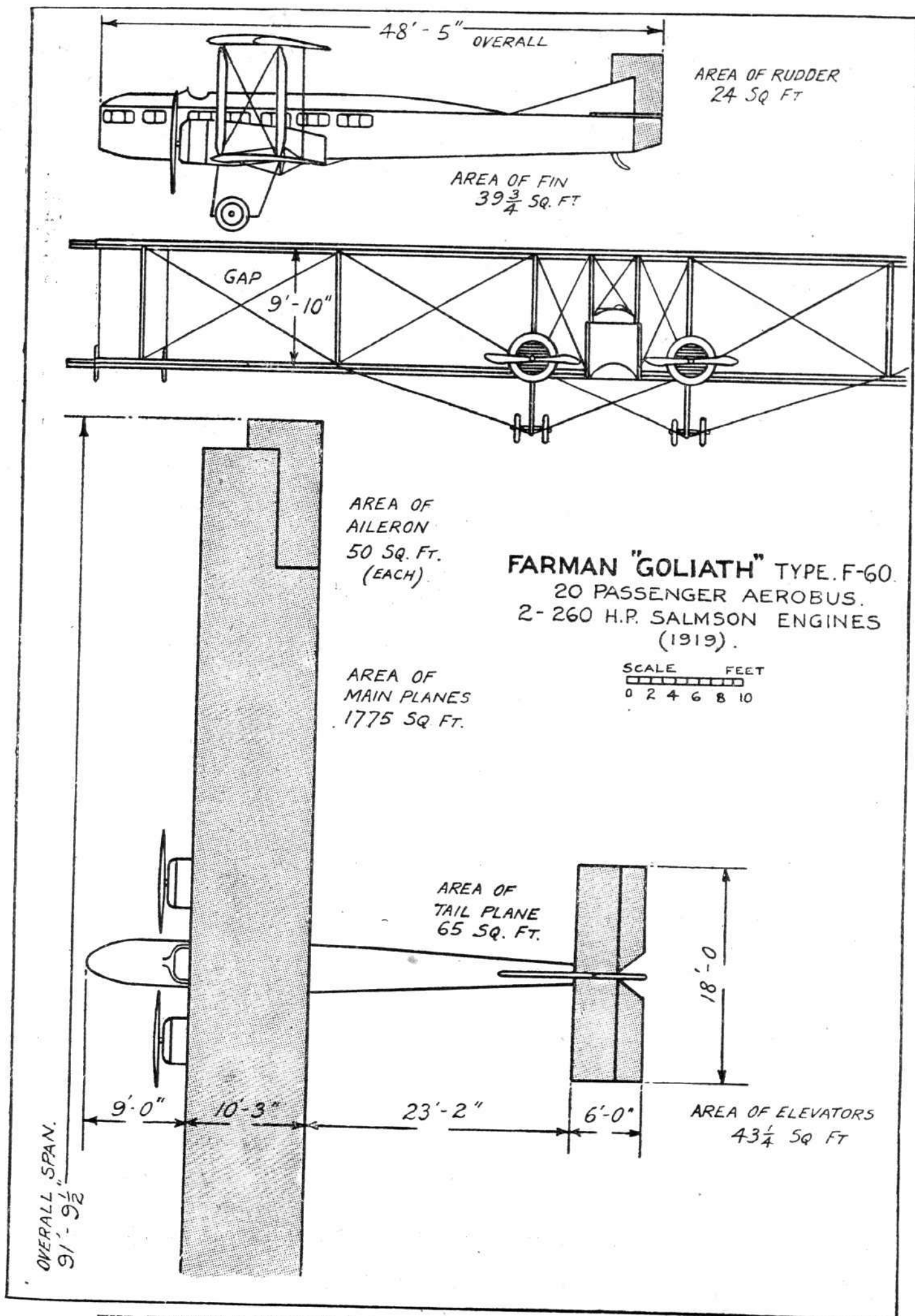
Three-quarter front view of the Farman " Goliath " aerobus.



The Farman " Goliath " aerobus in flight.



View of the interior of the passengers' cabin of the Farman " Goliath " aerobus.



THE FARMAN "GOLIATH" AEROBUS: Plan, front and side elevations to scale.



A "night" view of the Farman "Goliath" aeroplane, taken at midnight on August 10th, just before the start for its flight to Dakar.

flight to Casablanca (1,280 miles) got lost in the Sahara for over a week, and was found eventually some 500 miles from Dakar with its crew hungry but intact, the following particulars, with scale drawings, may be of interest.

The F-60 is a comparatively large fuselage twin-engine biplane, with an enclosed cabin accommodating 20 passengers. The interior of the cabin is handsomely finished, and is provided with comfortable light wicker arm-chairs arranged on either side of the cabin alongside the windows. The pilot's cockpit, which is open, is located on the roof of the cabin, just forward of the main planes, where the range of vision is good. It was a machine of this type that was employed on the first civilian passenger service between Paris and Brussels, inaugurated last March.

The upper and lower planes are of equal span, and are without dihedral and sweepback. They are rectangular in plan form, and have balanced ailerons fitted to both upper and lower surfaces. In all there are eight pairs of interplane struts, two pairs of which run up from the fuselage and one pair being located at each engine. The intermediate and outer pairs are spaced 16.4 ft. apart. The overhang of

the main planes, not including the ailerons, is 4 ft. The ailerons are 11 ft. 5 ins. long by 3 ft. 4 ins. wide.

The engines are Salmson 9-cyl. "Star" type, developing 260 h.p., and are mounted on the lower plane close up to the fuselage. They drive 8 ft. tractor screws, and are enclosed in streamlined nacelles, with a circular radiator in the nose.

The landing chassis is typically Farman, consisting of a pair of wheels located under each engine, and carried by "trouser" struts.

The general specifications of the F-60 are as follows:—

Span (top and bottom)	91 ft. 9½ ins.	Area of fin	39½ sq. ft.
Chord	10 ft. 3 ins.	Weight, empty	4,409.24 lbs.
Gap	9 ft. 10 ins.	Useful load	4,409.24 lbs.
Overall length	48 ft. 5 ins.	Fuel, etc.	1,126.24 lbs.
Overall height	16 ft. 5 ins.	Weight, fully loaded	9,964.88 lbs.
Area of main planes	1,775 sq. ft.	Speed range	37-99 m.p.h.
Area of ailerons (4), each	50 sq. ft.	Climb in 4 mins.	1,600 ft.
Area of tail plane	65 sq. ft.	Climb in 10 mins.	3,200 ft.
Area of elevators	43½ sq. ft.	Climb in 25 mins.	6,500 ft.
Area of rudder	24 sq. ft.		

Inland Mails by Air

THE Postmaster-General gives notice that, by arrangement with the Air Ministry, services by aeroplane for the conveyance of letters only will begin today between London and the following towns:—Bristol, Birmingham, Newcastle, Manchester and Glasgow.

Letters intended for conveyance by these services should be prepaid at the ordinary inland rate of postage, and, in addition, a special fee of 2s. an ounce for each letter should be prepaid in stamps at the time of posting. Such letters should be handed in over the counter at the offices shown below not later than the times stated. They will be sent out by the next ordinary delivery after arrival at the post office of destination:—

G.P.O. (King Edward Building)	..	9 p.m.
Western Central District Office (High Holborn)	..	8 p.m.
Western District Office (Wimpole Street)	..	8 p.m.

The present service is experimental, and the arrangements will be subject to modification in the light of experience. If the service is found to meet public needs it is hoped to extend it to other large towns.

A Royal Air Force aeroplane left Kenley at 5.40 a.m.

on Monday with the King's mail, landed at Newcastle-on-Tyne, and returned with other mails to Kenley by 1.40 p.m.

The scheme for the conveyance of urgent dispatches by air has now been extended to include the Irish mail service.

On Monday urgent Government mails were delivered by R.A.F. aeroplane service (under the Home Office organisation) to main centres—five machines making outward and return journeys. Sub-distribution was arranged from these centres by subsidiary services of aeroplanes.

An Indian Aerial Mail

FROM Simla comes word that the Government of India are advocating the formation of a big company, independent of any aircraft construction company, with a monopoly for the carriage of mails for ten years on the same lines as the P. and O.

The Board to advise the Commerce Department has sanctioned the proposal to establish aerodromes at Calcutta, Bombay, Karachi, Nagpur, Madras, Rangoon, Singapore and Delhi.

To Fly to Timbuctoo

Two French flying officers are to make prospecting flights in West Africa from Dakar to Timbuctoo, and from Dakar to French Guinea and back.

LORD WEIR ON FUTURE DEVELOPMENT

By way of affording a public welcome to the officers and crew of the R 34, and also to inaugurate the Scottish Section of the Royal Aeronautical Society, a meeting was held in the St. Andrew's Hall, Glasgow, on September 24, at which Sir William Beardmore presided. Lord Weir was to have read a paper on aviation, but as he was detained in London, the notes of his speech were read by his brother, Gen. Jas. A. Weir, R.A.F.

The chief deduction Lord Weir drew for the future was one which the War had made perfectly clear—namely, the supreme necessity of the strictest vigilance in the development of research and experiment. Whatever influence the exigencies of the moment might exercise on retrenchment, there must be no reduction of our expenditure on technical development. War was the compelling influence on the intensification of our technical effort.

Referring to the immediate future of civil or commercial aviation, Lord Weir confessed that he was a genuine believer in the future of civil aviation. He accepted flying seriously, as an ultimate invaluable system of achieving high speed transport for goods and passengers. He had an unflinching faith that aircraft comprising heavier-than-air and lighter-than-air machines would ultimately confer a genuine boon on civilisation. Early progress in civil aviation would to the uninitiated appear slow and unsatisfactory. An aerial transport company today was like a merchant shipping concern without ports or harbours. Regarding commercial aviation he thought only of the practical and utilitarian aspect of regular services carrying goods and passengers.

He fully recognised that the immediate developments were admirable and profitable. He looked for a considerable development on the sporting side and in the personal use of aeroplanes, by the not inconsiderable number of those who were pilots during the War. For photographic and survey work a definite field of enterprise and usefulness was open; an increase in the rapidity of communication and of transport would be one of the most definite aids to the progress of civilisation. Mail matter would represent the most favourable class of work as a source of revenue. Thereafter would come the urgent and emergency passenger traffic and the carriage of goods of a light, valuable and specialised nature. The vagaries of our climate and the highly developed and speedy existing mail transport rendered the immediate application of aerial mail carrying in the United Kingdom improbable.

After referring to the performances of the new London to Paris service and the American mail, Lord Weir wrote that they must also realise the tremendous usefulness and value of obtaining actual experience on a more ambitious scale as early as possible. With that in view one visualised the problem of handling, say, a part of the Indian mail over the section of the route where weather conditions are favourable and uniform at an early date. If that route were started from Egypt to Karachi that would constitute the initiation of a chain of Imperial air routes connecting by trunk lines the main units of the British Empire, and they would foresee

in addition auxiliary feeder lines to and from the smaller centres.

There were also many independent services. The most favourable he considered to be the coastal work service in Australia and the West Indies. At present he had the greatest faith in the usefulness for the coastal sort of flying boats. As regards Imperial air routes and civil aviation, there entered into the problem the important factor of the future military aerial activities of the Empire. Whatever sum might be apportioned for the defence of the Empire it would be allocated between air, sea and land power, and it was clear that air power was the developing factor of the three. Accordingly, for strategical reasons alone, the different units of the Empire would require to be linked up by definite aerial routes, which would be found to a great extent to coincide with the commercial routes. The best ends of civilisation would not be served by keeping civil aviation for a Government monopoly. Co-operation between the activities of the State and of private firms would produce the finest results. The State must be the pioneer. It must help, build, encourage and exercise control, but emphatically it must not monopolise.

The King sent the following telegram in response to a loyal message:—"The King has received with much pleasure and satisfaction the loyal message from citizens of Glasgow assembled at the invitation of the Scottish branch of the Royal Aeronautical Society to do honour to the first British airship to cross and recross the Atlantic. His Majesty heartily joins in congratulating the designer and all those associated with the construction of this airship on the remarkable success it has achieved. He is glad to think that the Clyde has played so prominent a part in establishing this fine record in the annals of British history. The King much appreciated the kind allusions to Prince Albert."

On the same day the officers and crew of the R 34 were entertained at luncheon at Glasgow by Sir William Beardmore, whose firm built the airship.

Proposing the health of the guests, Sir Robert Horne emphasised that the public never realised how much was done during the War by airships. The Admiralty started with eight of these vessels, and ended with about 100. The work these accomplished in the War was incalculable. We were always beaten by the Germans by rigid airships until the R 34 had proved that, even starting with a great leeway to make up, we had beaten Germany in the ship which was her own special pride.

Maj. Scott said he thought that civil airships would for a long time run along with military or naval airships. There could not be very much difference between them for several years to come. In a few days any civil ship could be converted into a warship. That was much more so with an airship than with any other type of craft. The conversion of civil airships, for the next six or seven years, to a military use would be a very simple matter. That was a thing to be remembered, because he thought that the development of airship construction to civil uses would do a great deal for the development of the airship as a whole.

COMMERCIAL AIR TRANSPORT

HOUNSLOW, ETC.

At dawn every morning four Avros leave Hounslow for Cardiff, Birmingham or wherever they are wanted to go, carrying newspapers, etc. They return home by mid-day, and after lunch machines often leave for Manchester. One of the machines returned from Manchester to London in two hours, at a speed of 100 miles per hour, which shows that, while the comparatively low-powered engines used are economical to run, the Avros can on occasions show a very respectable turn of speed. Sir William Crossley is among those who have chartered an Avro for a journey from Manchester to London.

The crisis has demonstrated the results of the missionary work which Messrs. A. V. Roe and Co., Ltd., have been doing throughout the summer in popularising flying in so many parts of Great Britain. People stroll in or ring up and ask for an Avro with the same easy confidence with which they would call a land taxi. In consequence the transport department has been snowed under with demands, and has been quite unable to meet all the calls made upon it. What the public does not seem to realise is that the company must charge for the full journey made by the machine. If a traveller would arrange with one friend or three friends to travel

together, the expenses would be halved or quartered. It would be a good thing for enquirers to ask at the ticket agencies if they know of anyone else who is desirous of travelling in the same direction. In the same way enquiries might be made at the town of destination as to the chances of getting the seats booked for the return journey.

The Blackburn Aeroplane Co. are running a service between London and Leeds. Eight passengers and 400 lb. private mails or merchandise can be carried. The fare is 15 guineas single or £30 return.

The British Aerial Transport Co. started a service from London to Birmingham on September 29. The B.A.T. saloon machine carried four passengers.

NOTTINGHAM

Lieut. Macrae, M.C., and his travelling circus of Avros have been at Nottingham during the past week, but previous to the outbreak of the strike the weather was not very favourable for flying. When the crisis came, fine weather returned, and the Avros got busy. One notable journey was made to Grantham and Lincoln, taking the local representative of Messrs. Boots' and a supply of drugs. The latter were delivered in shops in both Grantham and Lincoln within an hour of the start.

AIRISMS FROM THE FOUR WINDS.

CONGRATULATIONS to Lieut.-General Sir David Henderson upon his promotion by M. Poincaré to the rank of Grand Officer of the Legion of Honour.

DITTO to our British pilots, who, according to advice from Viborg, are keeping the nerves of the Bolshies in Kronstad upon the rack every minute of the day and night. So far our men are reported to have distributed about 180,000 lbs. of explosives as the rations of the Kronstadt "reds."

THAT the railway hunnish hold-up should materially assist aviation to fill the bill of emergency is pretty prominently apparent from the use which has been made of it to "carry-on" in certain directions. The mails should particularly have benefited from its mobility. Maybe the Postmaster General will have a little more sympathy in the future to seeing after its development somewhat more generously than has hitherto prevailed in that quarter. After all a service, and by way of a reserve force, that is always "right there" under stress, should be worthy of a little consideration during normal happenings.

GIVE aerial-post a real chance and its making good is a foregone conclusion.

IN all directions, besides mail-work, those firms which have been able to keep going in anticipation of the bettering of commercial aviation, have not been idle. It has been quite surprising to note the number of planes which were flitting about the country right away from early Saturday onwards. It's a good omen, and—in conjunction with its elder sister-industry, automobilism—looks like crashing badly the venomous omnipotent power which the Bolshie element on British soil flattered itself it possessed to model the Government plus the Nation to its own ghastly shape.

No longer, with mechanical transport even at its present stage, can the Nation be held to ransom by the "anarchist conspirators" who have been tolerated only too long on the hospitable shores of guileless Albion. Out the blighters, lock, stock and barrel, and if it be possible "lose" them on the way out. Then, and not till then, will the Empire have a chance of recuperating after its unexampled and successful effort to save humanity. But the real British workmen will find in their absence the opportunity to come into their own, by securing the real fruits of their individual efforts instead of being "vampired" to death by the incompetent slackers led by these foreign blood-suckers. Huns should be treated as Huns.

MR. M. ANDERSON, a representative of Aerial Service, Ltd., who has just returned to Melbourne after an inspection

of the Malayan Archipelago, is reported to have confirmed the opinion that the London-Australia flight is at present a difficult undertaking necessitating a series of prepared landing-stations at various sites in Asia. Darwin, in the norther territory of South Australia, he states, is clothed with dense jungle or loose rocks, and the clearing of a landing-station would take months. The Australian end of the Archipelago presents the most serious obstacles, and between Darwin and Sydney landing sites must be carefully selected to avoid the danger of forced landings, where low bush masks the dangers. The safest time for the flight, he insists, is mid-year.

WE are evidently not far off warning notices at the prominent commercial aviation centres, conveying the information that "Passengers must not attempt to board the planes when in motion," judging by the following little story going the rounds of the Press. "One gentleman," so the tale runs, "who had an important business journey to make to Paris, and decided to travel by air, arrived at Hounslow Aerodrome by motor precisely at 12.30 today as the aeroplane was in motion on the ground in the preliminary stage of the flight. With a special effort the attendants succeeded in hoisting him up and bundling him almost head first into the well of the machine, to the amusement of all concerned."

Some R.A.F. Impressions



Major H. G. Smart, R.A.F., who commanded a squadron of Snipes at Cologne.

THE business trip—London-Nice—London—recently completed by aeroplane by Col. G. L. P. Henderson, is all the more noteworthy by reason of its being a private flight. Following Col. Henderson's arrival back in London, in an interview, he said: "The trip was a private affair made without any organisation, and proves the reliability of the aeroplane for this kind of journey. I flew my own machine, an Armstrong-Whitworth with Beardmore 160 h.p. engine, and it was not necessary to undo the engine-covering during the ten days I was absent from London. I had Maj. Lloyd as passenger. We left Nice on the return journey on Tuesday night, and came through to London with two stops."

As a reminder of aerial-post flips in the past, and by way of an expert's summary of recent happenings during the War, embodying the issue of special air-mail stamps, an article by Mr. F. J. Melville in the *Daily Telegraph* is of more than passing interest to many concerned with aviation in its various aspects. Mr. Melville mentions that the first aeroplane mail was an experimental one conducted in connection with the United Provinces Exhibition at Allahabad, in February, 1911, when Capt. W. G. Windham was the first "air postmaster." The same officer was the organiser in September, 1911, of the

well-remembered first United Kingdom aerial post, which conveyed letters from London to Windsor in honour of King George's coronation.

DURING the War the rapid development in airship and aeroplane construction led to the creation of numerous War services by aircraft of all descriptions. A Taube carried mails out of Przemyśl early in the War, and in due course aircraft became the means of rapid transmission of despatches and official mail. These early air mails did not require the issue of special stamps, but so soon as the air services were opened to meet the requirements of the public distinctive aerial post stamps came into use.

In May, 1917, the Italians started an aeroplane mail between Rome and Turin, and the 25 centesimi rose express-letter stamp was specially overprinted "Esperimento Posta Aerea, Maggio, 1917. Torino-Roma, Roma-Torino." Shortly afterwards another air service was established by means of seaplanes, to avoid the submarine menace, between Naples and Palermo, and the stamp used for this was the 40 centesimi violet express stamp, surcharged "25 cent.," and overprinted "Idrovolante. Napoli-Palermo-Napoli."

During the War Austria and Hungary had public aerial posts, the Austrians using their current stamps surcharged 1½, 2½, and 4 kronen, and overprinted "Flugpost," and the Hungarian stamps of 1½ and 2½ kronen were overprinted "Repülő Posta." On May 15, 1918, the first regular United States "air-line" started between Washington, Philadelphia and New York, and the special aerial stamp of 24 cents, red and blue, was issued on that date. The rate was subsequently reduced to 16 cents, and a 16 cents green stamp in the same design was issued. A further reduction in the charge for air transmission to 6 cents led to the issue of a 6 cents orange stamp, and now there is a report that the air post is in such demand that it will henceforth be possible to carry letters by airline at the ordinary 2 cents or penny postage rate.

In May last the first regular Swiss air post started between Zurich and Lausanne, with one intermediate stop at Berne, and for this a 50 centimes stamp has been overprinted with a propeller device. Similarly for the recently-started Tunis air post, the current 35 centimes stamp has been overprinted with "wings" and the inscription "Poste Aérienne."



An example of Avro up-to-dateness to help in overcoming the difficulties in connection with transport arising out of the railway strike.



THE AIRCO 4 R: This machine, fitted with a 450 h.p. Napier Lion engine, is a development of the machine on which Capt. Gathergood won the Aerial Derby, which flight is officially declared a British Speed Record for a flight in a closed circuit. On this machine Capt. Gathergood, who is shown in the photograph, flew to Amsterdam in 2 hours 10 mins., which is, we believe, the fastest time for this journey. While at Amsterdam Capt. Gathergood won a race in a closed circuit, his speed working out at 145 m.p.h. The Napier Lion is rapidly building up for itself an excellent reputation, having established these fast times. It also has the distinction of having been up to an altitude of nearly six miles in an Airco (De Havilland) machine, as well as a non-stop flight from London to Madrid in 7½ hours.

THE great and successful Transatlantic flights during the present year have been made the occasion for experimental mails, and in the case of those starting from Newfoundland they have used distinctive stamps. The Sopwith Aviation Co. received a nominal subsidy of one dollar from the Colonial Government to carry mails to England, and the current 3 cents brown stamp of Newfoundland was specially overprinted "First Transatlantic Air Post, April, 1919." The mail carried by Mr. H. G. Hawker was franked with this stamp, and it was salved with the aeroplane by the United States steamer, *Lake Charlottesville*, and the letters were duly delivered. It was one of these "Hawker" stamps, unused, that was sold recently in London for £210 in aid of a Newfoundland War charity.

The mail carried over by Sir John Alcock and Sir A. Whitten Brown, also bore a special stamp, the 15 cents of the 1897 or Jubilee issue of Newfoundland being overprinted "Transatlantic Air Post, 1919. One dollar." This mail was delivered in London within three days of leaving Newfoundland. It is not generally known that a more elaborate stamp issue was prepared and used for franking the mail to be carried by Mr. Raynham. This issue comprised four denominations of adhesive stamps, 1, 2, 3, and 24 cents (Caribou issue), the 3 cents embossed envelope, and the 1d. Universal Postal Union postcard, all overprinted "1st Transatlantic Air Post, Martinsyde, Raynham, Morgan." As the mails carried by each of the three machines were extremely limited in bulk, the stamps used on the original letters are scarce, and form valuable records of a truly great adventure.

WHERE the true poetic touch came in! From a *Daily Chronicle* correspondent the following touching episode in the disentanglement of the Fiume complications is set out, dating from Milan on September 27:—

"Casagrande, the patriot aviator, has forsaken his newly-

wed bride at Nice, France, and gone to Fiume, stirred by the poet's brave deeds and eloquent words. He arrived at Venice, and thence proceeded by motor launch to Pola. His friends, abetting him, released three hydroplanes, and flew to Fiume. D'Annunzio, delighted, kissed his noble recruit, making him Commander of Fiume's Air Fleet."

We may be old-fashioned, but personally we would even prefer to have a poet render his own version of his pet poem to us. There are limits.

It is hardly surprising to learn officially that although it is only a few weeks since the R.A.F. opened its special recruiting campaign recruits have come forward in such numbers that the Force is now up to its present authorised strength. Accordingly all recruiting has now been suspended except for carpenters, cooks and clerks, for which trades, a certain number of vacancies still remain. The attractive new conditions of service and rates of pay are, of course, largely responsible for this satisfactory result and the authorities are, we learn, extremely pleased with the class of men who have come forward. As the number of applications still being made shows no sign of diminishing, men of the trades for which vacancies still exist and who desire to enter the R.A.F. would be well advised to apply without delay.

WHAT appears to be a very practical proposition, and one deserving every encouragement, comes from Capt. (temporary Lieut.-Col.) J. T. Halligan, R.D.F., ex-Q.M.S., Irish Guards, for the founding of a "Rankers' Club" in London. The War has created quite a new set of conditions and "atmosphere," to provide for which there is plenty of room.

Col. Halligan's scheme, which embraces the R.A.F., as put by himself, is as follows:—

It has occurred to me that if a "Rankers' Club" was established in London it would prove a great boon to all rankers, both those who are now civilians and those who are still serving. If you would be good enough to insert this letter in your paper, so that it can get to the notice of all rankers and those persons who are interested in rankers, and the scheme meets with approval, arrangements could be made to hold a meeting in London at an early date to discuss the project. I consider that the club should be established and run on the following lines:—

To be a residential club in London for all those who have obtained commissions from the Regulars, Territorials, or New Army, and for all those who obtain similar commissions in the future. Town and country members to pay different subscriptions.

All our distinguished rankers to be asked to serve as presidents or vice-presidents.

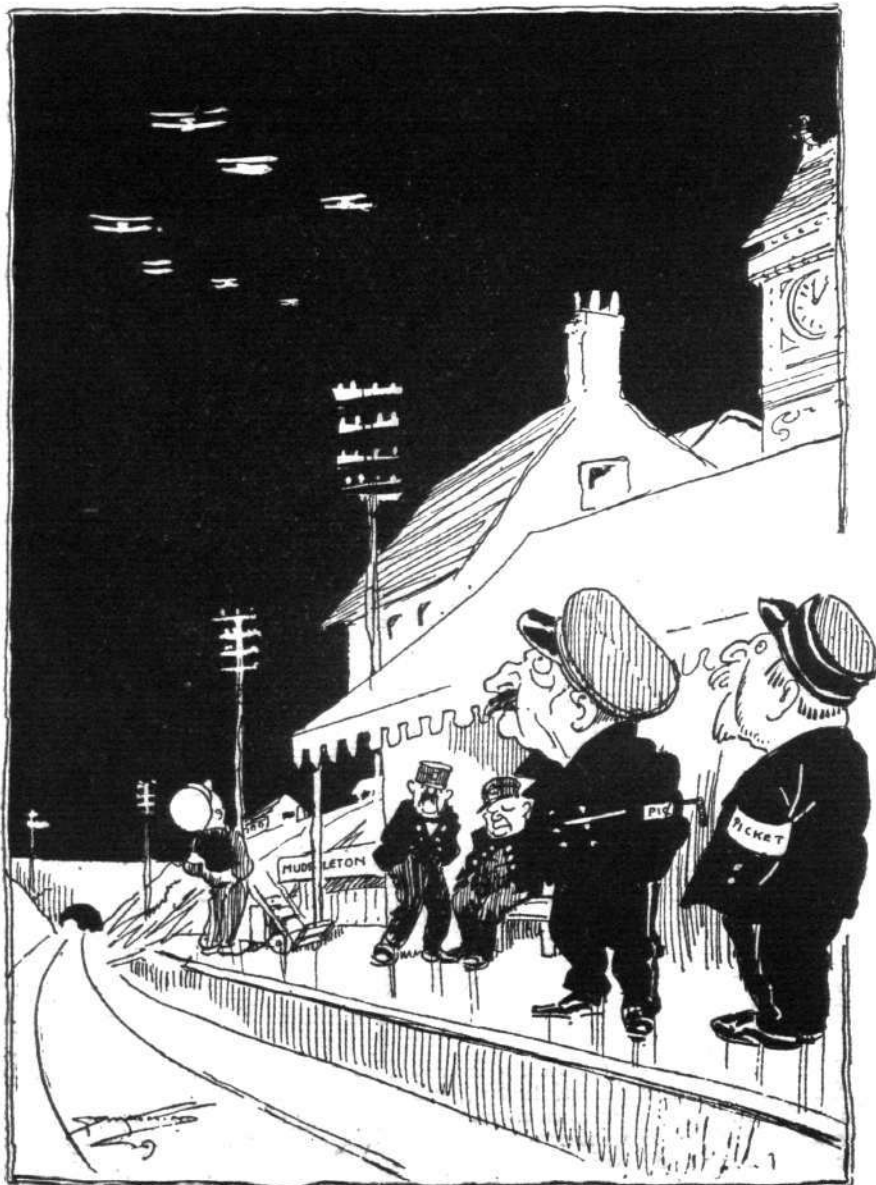
The chairman and committee to be selected annually. The committee to be comprised of equal numbers of civilian and serving members. A public subscription list to be opened for the foundation of the club; the subscribers' names to be inserted on a tablet and placed in the club after it has been opened.

Some arrangements to be made to record and place in a conspicuous position the names of all those rankers who have given their lives for their country. One room in the club to be set aside for this sole purpose.

The club would serve as a memorial for those who have made the greatest of all sacrifices, and would provide a place where all those members who are now civilians could meet one another, and also get in touch with their comrades who are still serving.

As soon as the club has been established a Rankers' Association could be formed to give assistance and advice to all members.

For the carrying-out of these laudable objects, Col. Halligan, who invites correspondence to A.P.Q., S. 19, Zeneghem, France, writes further:—If any "ranker" (civil or military) who is stationed at home will volunteer to take on the duties of secretary for the purpose of organising the meeting referred to in para. 2 above, and any others will also offer their services for the committee, and will all forward their names and addresses to me, I will endeavour to get the organisation started.



BLACKLEGS!—OUT OF REACH: During the railway strike aeroplanes do much to relieve the mail and other traffic tension, and are not interfered with by the strikers, needless to say.



Married

Maj. HENRY COCKERELL, O.B.E., R.A.F., son of the late Henry Cockerell and Mrs. Cockerell, of Osterley Park, was married on September 24 at Upton Church, Warwickshire, to AMY GERTRUDE, daughter of Mr. and Mrs. REED, of Upton.

NOEL MANSFELD DALES, late R.A.F., youngest son of the late Eli Dales and of Mrs. Dales, of Bishops Wilton, Yorks, was married on September 23 at St. Nicholas, Kenilworth, to WINIFRED ALICE, only daughter of the late Maj. J. C. STRINGER, Royal Warwickshire Regt., and of Mrs. Stringer, of Park Hill, Kenilworth.

Capt. G. R. A. DEACON, M.C., R.A.F., younger son of Mr. A. W. Deacon, J.P., of Swindon, was married on September 25, at Moreton-in-Marsh, to EDITH MARY RIDDEY, elder daughter of Mr. J. A. Riddey, of Moreton-in-Marsh, Glos.

Capt. HUBERT E. GODDARD, R.A.F., late East Yorks Regt., younger son of Col. W. E. Goddard, J.P., V.D., D.L., and Mrs. Goddard, of Thwaite House, Cottingham, Yorks, was married on September 16 at Durley Church, to ENID BERNARD, daughter of the late Mr. EDMUND BERNARD, J.P., and Mrs. Bernard, of Snakemoor, Botley, Hants.

Capt. WILFRID CHARLES GREEN, M.C., R.A.F., late Royal Fusiliers, elder son of Mr. and Mrs. A. E. Green, Datchworth, Herts, was married on September 23 at St. Peter's, Sudbury, to PHYLLIS, second daughter of Mr. and Mrs. H. H. BAKER, Sudbury.

Capt. BERNARD ARCHIE TAYLOR, R.A.F., only son of Mr. and Mrs. A. Taylor, of Dunollie, Crawley, was married on September 20 at St. Margaret's, Angmering, to KITTY, third daughter of the late Capt. H. F. LEICESTER LOCOCK, and of Mrs. Leicester Locock, of Pooks Hill, Angmering, Sussex.

To be Married

The engagement is announced between Capt. O. H. FROST, B.E., M.C., R.A.F., only son of the late Mr. Robert Frost

and Mrs. Frost, of 11, Coleherne Road, S.W., and PAMELA LUCY MARY, elder daughter of the late Mr. HERBERT SNOWDEN and Mrs. Snowden, of 80, Elm Park Gardens, S.W.

A marriage has been arranged, and will shortly take place, between Lieut. KENNETH MILNER HARRIS, the Suffolk Regt., attached R.A.F., youngest son of the Rev. Charles P. Harris, M.A., B.C.L., LL.D., Oxford, of Staplegrove Rectory, Taunton, Somerset, and of Mrs. Harris, and ALYS, elder daughter of Mr. H. B. BURNS and Mrs. Gower-Burns, Christchurch, New Zealand.

The engagement is announced between Capt. C. N. JONES, A.F.C. (late R.A.F.), only son of the late Alfred G. Jones, of Shantung, China, and of Mrs. Jones, Elmhurst, Lonsdale Place, Derby, and DOROTHY, elder daughter of the late GEORGE M. STAFFORD, of Sydney, Australia, and of Mrs. Stafford, 68, Holland Park Avenue, W. 11.

The engagement is announced between KENNETH CHAPELOW LESLIE, late lieut., R.A.F., of Launceston, Cornwall, and DORIS ELLEN, only daughter of Mr. and Mrs. TAYLERSON, of Stranton, Reigate.

The engagement is announced between Capt. GARTHSHORE TINDAL PORTER, R.G.A. and R.A.F., eldest son of the late T. P. Porter, Esq., Government Surveyor, Queensland, Australia, and of Mrs. Porter, late of Cheltenham, and CHRISTINE CECILIA, elder daughter of Mr. and Mrs. ALBERT STEPHENS, Gloucester.

The marriage between Lieut. R. J. RODWELL, R.A.F., and MARGERY, eldest daughter of Mr. and Mrs. LIVOCK, of Newmarket, will take place on Tuesday, October 21, at the Roman Catholic Church, Newmarket, at 2.30.

Item

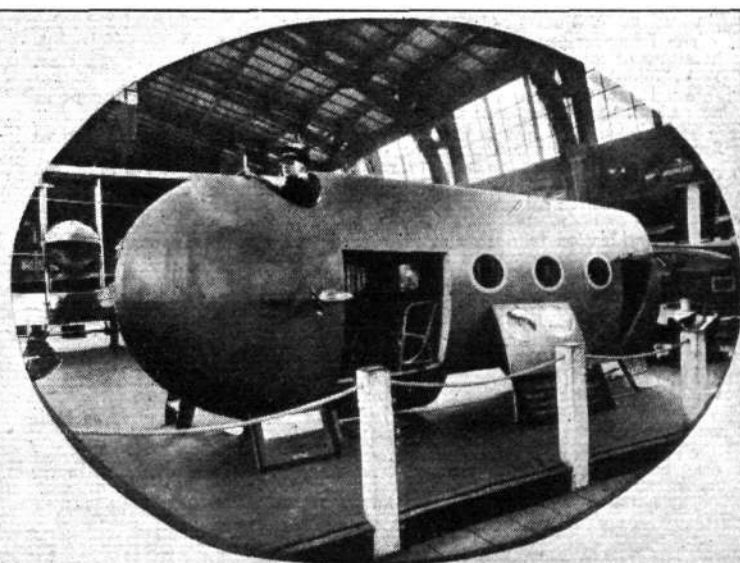
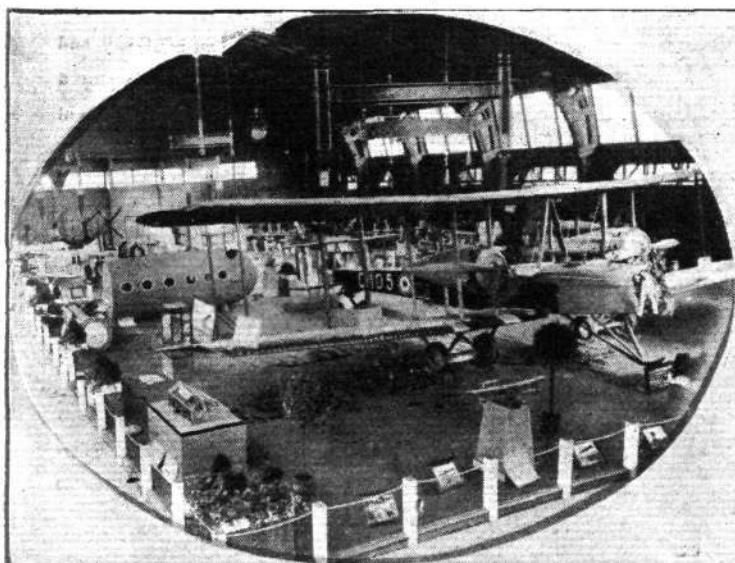
Lieut.-Gen. Sir DAVID HENDERSON has been promoted by M. Poincaré to the rank of Grand Officier of the Legion of Honour.

A Fatality in Italy

ACCORDING to the Rome journal, *Epoca*, a British aeroplane *en route* for Rome and Cairo, when near Lake Bracciano, crashed and caught fire, Capt. C. H. Darlley, the pilot, being burned to death, and Capt. Chas. Darlley injured.

Fast Flying in France

A BRIEF message from Paris on September 25 stated that the aviator Lecointe had beaten the speed record, exceeding 265 km. (about 166 miles) an hour, but the effort does not appear to have been officially observed.



VICKERS IN HOLLAND: Two views of the Vickers stand at the E.L.T.A. show at Amsterdam. On the left a general view of the stand, showing the Vickers-"Vimy," and on the right the front portion of the fuselage of a Vickers-Vimy commercial.

THE ROYAL AIR FORCE

London Gazette, September 23

Permanent Commissions

The notification appearing in the *London Gazette* of Aug. 1, appointing the following officers to permanent commissions, is cancelled:—Lieut.-Col. A. E. Cairnes, D.S.O., Maj. W. D. S. Sanday, D.S.O., M.C. (A.); Capt. C. H. Darley, D.S.C., D.F.C. (A.); Capt. E. J. L. Gilchrist, M.C., D.F.C. (A.); Capt. T. E. B. Howe, A.F.C. (A.); Capt. P. E. M. Le Gallais, A.F.C. (A.); Capt. A. S. Redfern (A.); Capt. G. M. T. Rouse (A.); Lieut. N. S. Dewey, M.C. (A. and S.); Lieut. R. R. Evans (A.); Lieut. G. G. Graves (A.); Lieut. H. N. Loch (A.); Lieut. D. S. Robertson (A.); Lieut. A. W. Simon (A.); Lieut. P. L. Stephens (Ad.); Lieut. W. F. Williamson (A.).

The surname of Lieut. E. J. D. Townesend (S.O.) is as now described, and not "Townshend," as in *Gazette* of Aug. 1.

The initials of Lieut. J. W. Nixon (Ad.) are as now described, and not "L. M.," as stated in *Gazette* of Aug. 1.

The following temporary appointments are made at the Air Ministry:—*Staff Officers, 2nd Class*.—Air.—Flight Lieut. D. S. K. Crosbie; Aug. 27; Flight Lieut. F. N. Halsted, D.S.C.; Sept. 15.

The following temporary appointment is made:—*Staff Officer, 1st Class*.—Air.—Wing Comdr. A. W. Bigsworth, C.M.G., D.S.O., A.F.C.; Sept. 17, vice Sqdn. Leader C. E. Maude.

Flying Branch

The following Maj. are graded for purposes of pay and allowances as Lieut.-Cols. whilst employed as Lieut.-Cols. (A. and S.):—J. S. Mills, D.S.C. (from April 22 to July 31); S. H. B. Harris, A.F.C. (from May 1 to Aug. 9).

The following Capt. are graded for purposes of pay and allowances as Maj. whilst employed as Maj. (A.):—I. N. C. Clarke, D.S.C. (to May 17), C. J. Truran, A.F.C. (to June 30), J. H. D'Albiac, D.S.O. (from July 24 to July 31); May 1.

Capt. to be graded for purposes of pay and allowances as Maj. whilst employed as Maj. (K.B.):—A. T. Moore, O.B.E., M. H. Spencer (to June 29); May 1.

Capt. K. B. Harborn to be Capt. (A.), from (S.O.); March 15 (substituted for the notification in the *Gazette* of July 15).

Lieut. (Hon. Capt.) C. E. Holman to be actg. Capt. whilst employed as Capt. (A.), from Oct. 31, 1918, to April 30.

The following Lieuts. are graded for purposes of pay and allowances as Capt. whilst employed as Capt. (A.):—J. D. Seal (from May 1 to June 30); S. B. Collett (from May 17 to July 31); C. G. Mathew; July 8.

Lieut. (Hon. Maj.) (actg. Capt.) G. T. Barry to be Lieut. (Hon. Maj.) (K.B.), and relinquishes the actg. rank of Capt. on ceasing to be employed as Capt.; June 1.

Lieut. G. H. Langley relinquishes the grading for pay and allowances as Capt. on ceasing to be employed as Capt. (A.); June 24.

Flying Officer H. B. Pett, M.C., relinquishes the grading for pay and allowances as Flight Lieut. on ceasing to be employed as Flight Lieut. (A.); Sept. 1.

Flying Officer M. A. Benjamin, M.C., to be Flying Officer (A.), from (S.O.); Aug. 19.

Sec. Lieuts. to be Lieuts.—H. C. Wright; April 28, 1918. C. E. Tidy; March 23. P. J. Dowell; March 27 (substituted for the notification in the *Gazette* of July 29). Alex. Shepherd; May 4 (substituted for the *Gazette* of July 29, wherein this officer was described as "Arthur Shepherd").

Sec. Lieut. D. O. Onslow-Carleton (late Gen. List, R.F.C., on prob.) is confirmed in rank as Sec. Lieut. (A.); Feb. 11.

W. R. Wood (Temp. Sec. Lieut., Manch. R.) is granted a temp. commn. as Sec. Lieut. (O.); May 18, 1918.

The following relinquish their commns. on ceasing to be employed:—Lieut. W. B. Ferrier (Lieut., Cent. Ont. R.); Sept. 10. Capt. J. H. C. Minchin (Capt., Sco. Rif.); Sept. 15. Sec. Lieut. N. Cave (Lieut., R. Sussex R.); Sept. 16.

(Then follow the names of 69 officers who are transfd. to the Unemployed List under various dates.)

Maj. F. W. Honnett relinquishes his commn. on account of ill-health, and is permitted to retain his rank; Sept. 9.

Lieut. W. E. Joseph (R.F.A.) relinquishes his commn. on account of ill-health caused by wounds, and is granted rank of Capt.; Aug. 22.

The following Lieuts. relinquish their commns. on account of ill-health, and are permitted to retain their rank:—K. D. MacLeod; July 12 (substituted for notification in *Gazette* Feb. 28). L. A. Bushe (contracted on active service); July 19. R. S. V. Morris; Aug. 3, 1918.

Lieut. E. R. Gunner resigns his commn.; Sept. 24.

The following Sec. Lieuts. relinquish their commns. on account of ill-health, and are permitted to retain their rank:—E. S. Noble; July 12. P. V. Tempest; Sept. 13.

Sec. Lieut. G. Hughes to take rank and prec. as if his appointment as Sec. Lieut. bore date Jan. 11.

Sec. Lieut. S. N. Giroux to take rank and prec. as if his appointment as Sec. Lieut. bore date Oct. 24, 1918.

The notification in *Gazette* July 16, 1918, concerning Sec. Lieut. M. E. Miller is cancelled. The notification in *Gazette* April 9, 1918, stands.

The notification in *Gazette* April 11 concerning Lieut. E. F. Jones is cancelled.

The notification in *Gazette* of July 11 concerning Sec. Lieut. A. G. Ely is cancelled.

Administrative Branch

Maj. R. Cockburn, O.B.E., is graded for pay and allowances as Lieut.-Col. whilst employed as Lieut.-Col., from May 1 to July 30.

Maj. A. E. Loder to be Maj., from (S.O.); July 18.

Sqdn. Ldr. G. H. Thomson, O.B.E., to be Sqdn. Ldr., from (S.O.); Aug. 29.

Flying Officer (Hon. Flight Lieut.) D. C. G. Sharp to be actg. Sqdn. Ldr. whilst employed as Sqdn. Ldr.; Aug. 1.

Capt. H. C. Mallett, M.B.E., is graded for pay and allowances as Maj. whilst employed as Maj.; May 1 to July 12.

Flight Lieuts. to be Flight Lieuts., from (S.O.):—F. J. Gray, O.B.E.; Aug. 1 (substituted for notification in *Gazette* of July 4). G. M. Broadburn, A. Warnock; Aug. 15.

The following Lieuts. are graded for pay and allowances as Capt. whilst

employed as Capt. :—L. B. Nicholls; May 1. A. H. Tarper, from May 1 to 19. F. W. H. Durrant, from (T.), from May 1 to Aug. 16.

Lieut. (Hon. Maj.) A. J. Battine is graded for purposes of pay and allowances as Capt. whilst specially employed; June 8.

Lieut. H. Gwynne-Smith relinquishes grading for purposes of pay and allowances as Capt. on ceasing to be employed as Capt.; June 30.

Lieut. A. Eggar to be Lieut., from (S.O.); July 5 (substituted for notification in *Gazette* of July 22, wherein this officer was described as L. A. Eggar).

Flying Officers to be Flying Officers., from (S.O.):—J. A. H. Savage; Aug. 15. H. C. Pyper; Sept. 1.

Sec. Lieuts. to be Lieuts.:—(Hon. Lieut.) L. B. Clarkson; April 2, 1918. W. Simmonds; Jan. 10. W. R. Wood; Feb. 1 (substituted for notification in *Gazette* of Feb. 4). E. P. Woodman; June 20.

Sec. Lieut. W. R. Wood to be Sec. Lieut., from (O.); Oct. 8, 1918 (substituted for notification in *Gazette* of Nov. 5, 1918).

Sec. Lieut. H. Preston (late Gen. List, R.F.C., on prob.) is confirmed in rank as Sec. Lieut.; Sept. 28, 1918.

Lieut. D. S. Cairnes (Lieut., Rif. Bde.) relinquishes his commn. on ceasing to be employed; June 17.

(Then follow the names of 22 officers who are transfd. to the Unemployed List under various dates.)

The following Sec. Lieuts. relinquish their commns. on account of ill-health, and are permitted to retain their rank:—K. D. Kayler; May 20 (substituted for notification in *Gazette* Jan. 10). G. J. Murphy (contracted on active service); July 12. C. W. Tuck; July 12 (substituted for notification in *Gazette* of Jan. 7).

The notification in *Gazette* July 22 concerning Sec. Lieut. G. J. Murphy is cancelled.

The notification in *Gazette* Feb. 28 concerning Lieut. B. W. Blayney is cancelled.

The notification in *Gazette* Aug. 9, 1918, concerning Lieut. C. R. Ansell (R.W. Surr. R.) is cancelled.

The notification in *Gazette* Aug. 2, 1918, concerning Sec. Lieut. R. S. V. Morris is cancelled.

The notification in *Gazette* Feb. 21 concerning Lieut. N. Smith is cancelled.

The notification in *Gazette* May 23 concerning Sec. Lieut. C. H. Marston is cancelled.

The notification in *Gazette* Oct. 15, 1918, concerning Sec. Lieut. H. Preston is cancelled.

Technical Branch

To be actg. Maj. whilst employed as Maj., Grade (A.):—Capt. K. D. Abercromby, from (Ad.); April 1, 1918 (substituted for the notification in the *Gazette* of April 19, 1918). Lieut. T. L. F. Burnett, M.B.E.; May 1 (substituted for notification in the *Gazette* of July 15).

The following Capt. are graded for purposes of pay and allowances as Maj. whilst employed as Maj., Grade (A.):—J. Stewart, E. Holloway, O.B.E. (to May 21); May 1.

Capt. W. J. Waddington relinquishes the grading for purposes of pay and allowances as Maj. on ceasing to be employed as Maj., Grade (A.); July 25.

Flight Lieut. N. V. Wrigley to be Flight Lieut., Grade (B.), from (S.O.); Aug. 1.

Lieut. (actg. Capt.) A. W. Furbank to be Lieut., Grade (B.), and to relinquish the actg. rank of Capt. on ceasing to be employed as Capt.; Dec. 1, 1918.

Lieut. W. R. Lewis relinquishes the grading for purposes of pay and allowances as Capt. on ceasing to be employed as Capt., Grade (B.); May 29.

Lieut. R. G. Whitcombe relinquishes the grading for purposes of pay and allowances as Capt. on ceasing to be employed as Capt., Grade (A.); July 21.

Lieut. K. I. Goodman to be Lieut., Grade (A.), from (Ad.); May 17, 1918 (substituted for the notification in the *Gazette* of Sept. 3, 1918).

Lieut. (Hon. Capt.) G. M. Nobbs is graded for purposes of pay and allowances as Lieut. whilst employed as Lieut., Grade (B.); Nov. 26, 1918.

Lieut. B. S. S. Rockey to be Lieut., from Unemployed List; Feb. 7, with precedence next below Lieut. A. S. Dunn.

Sec. Lieuts. to be Lieuts.:—(Actg. Capt.) W. W. Hammond; April 2, 1918, and to retain the actg. rank of Capt. until April 30 (substituted for notification in the *Gazette* of Aug. 29); E. A. Cater, May 3 (substituted for notification in the *Gazette* of July 29).

V. G. Darrington (Lieut., R.F.A.) is granted a temp. commn. as Lieut., Grade (A.); Nov. 5, 1918, with seniority from April 1, 1918 (substituted for notification in the *Gazette* of Nov. 26, 1918).

Sec. Lieut. (Hon. Lieut.) H. R. Sterrett to be Lieut., without pay and allowances of that rank; April 2, 1918.

(Then follow the names of 22 officers who are transfd. to the Unemployed List under various dates.)

Lieut. C. M. Kelly relinquishes his commn. on account of ill-health caused by wounds, and is permitted to retain his rank; Sept. 9.

The following are removed the Service, His majesty having no further occasion for their services as officers:—Lieut. A. C. Hankey, Sec. Lieut. C. J. Young; Sept. 24.

Medical Branch

Transferred to Unemployed List:—Capt. W. H. Payne; Feb. 24. Sqdn. Leader (actg. Wing Comdr.) F. F. Muecke, C.B.E.; Aug. 31.

Memoranda

The following relinquish their commns. on ceasing to be employed:—Temp. Hon. Lieut. F. W. Hedgecock; Aug. 20. Temp. Hon. Lieut. H. Bedson; Sept. 16.

(Then follow the names of six officers who are transfd. to the Unemployed List under various dates.)

Sec. Lieut. A. L. Maquard is dismissed the Service by sentence of a General Court-martial; Aug. 20.

The notification in the *Gazette* of Aug. 8 and Aug. 19 concerning Capt. P. P. C. Penberthy are cancelled.

The notifications in the *Gazette* of Aug. 22 concerning Sec. Lieut. R. J. Walker and Pilot Officer C. A. Russell are cancelled.

The notification in the *Gazette* of Sept. 9 concerning Capt. S. M. Wood is cancelled.

To Fly to the Philippines

TENTATIVE plans are now under consideration for a seaplane flight from San Diego (California) to the Philippines, via Hawaii and Wake Island (north of the Marshall Islands), and Guam.

Lively Times at Kronstadt

BRITISH flying officers, according to reports from Viborg, are keeping Kronstadt uninterruptedly in suspense. From 140,000 to 180,000 lbs. of explosives are reported to have been dropped on the fortress.

FOSTERING AVIATION IN FRANCE

WHAT France is doing to encourage aeronautics was admirably summarised the other day by Gen. Duval, in an interview with *The Times* correspondent in Paris. Gen. Duval, who was once commander of all the French military air forces of the armies on the Western front, is now in charge of the main organising body for French flying, which holds its authority from none but the Cabinet. The General said:—

"Flying here has been classed into four groups: military, naval, colonial and ordinary civil flying. The third type so far exists purely in theory. Such separation into classes will, we hope, prevent the abuse of 'red tape.' You will notice the flexibility of the system, which fact, we expect, will encourage initiative and progress through rivalry.

"Over the first three official classes there is this office which I govern. Here is a service dealing with technical matters, and another which is responsible for the placing of all orders with manufacturers on behalf of the flying forces of the Army, the Navy, or Colonial aviation. The third service studies and undertakes on behalf of the Government construction of all national air routes. It is the duty of our technical body here to supply the chiefs of the Army or Navy with all the results of its research, such research being no longer undertaken by themselves.

"Our connection with civil flying is very slight, and that with a purpose. Private initiative is free to do what it likes, untrammelled by Government restrictions. Government will not control by 'don'ts,' but only by repeating 'If you act as we prefer you will receive help in the form of a premium.' It is with the above principle in view that there are no postal letter services owned by the State, for State monopolies would arrest progress. On the contrary, all services of public convenience are to be in the hands of private companies. All we do is to give encouragement.

"Premiums are given for all sorts of things. Aeronautical companies are allowed so much for the following items:— Possession of machines of special speed or weight-carrying power and machines of special durability (400 hours' flight is considered to be standard A 1); employment of good pilots and a percentage of craft which on an average could be at a moment's notice, in case of war, requisitioned with their pilots by the Government; good motors and good

material in general; and good hours of flight. A firm in a first-class way, it is estimated, has thus at the present moment half its running expenses repaid by the Government. It rests with its own energy to make a firm a paying concern.

"The premiums system has already been organised for the benefit of manufacturers of motors, aeroplane parts, and entire machines. Parliament has already made a grant of 9,000,000 f. (£360,000) for this purpose. A general competition is to be started in January, 1920, and will be open till the end of next July, during which period premiums can be won by any French firm.

"The novelty in the scheme lies in this:—Instead of a premium being paid only to a firm which has produced a finished machine which is judged to be a great improvement, it is intended to encourage each stage of manufacture, and as soon as one stage is approved of to make a grant. Thus an inventor or manufacturer may have the necessary means to continue research and attempt success at the second stage. In this way the approval even of designs would merit a money allowance to permit a model to be made, and approval of the model would cause a grant of further funds for the next step in manufacture. And so nobody with brains but without capital need ever despair."

The General continued:—

"Besides the fixing of the 'cadre' from which all is to grow, we have conducted numerous technical experiments. We intend to connect Paris with the capitals of neighbouring States, and to build air routes between districts which have bad train services. The railway routes mainly run towards Paris; we therefore intend to create air routes 'across country,' for example Bordeaux to Nice and Bordeaux to Nancy. This is to give airmen greater chances of commercial profits. Next year we expect to have built aerodromes between Boulogne, Paris, Lyons and Nice, thus covering part of the East Indian trade route.

"Our goal—a less formidable task for us than it would be for you—is to link up all parts of our Empire by air. For this we are now experimenting as far as Morocco. In time we shall have managed to connect this colony with Senegal, the Sahara, and the Congo. For this reason we have included in our scheme the formation of a 'colonial air service.'"

SIDE-WINDS

THE Sheffield municipal authorities certainly do not believe in hiding their light under a bushel. They publish a series of booklets setting forth the advantages of the Steel City as a business and commercial centre, and the newest one, just issued, deals with the transport facilities of the city. It deals not only with railways, waterways, highways, tramways and motor 'buses, but also "airways"—showing that Sheffield is right up to date in her ideas. Copies of the booklet—or any of the others which have been issued—can be had post free on application to the Development Department, Town Hall, Sheffield.

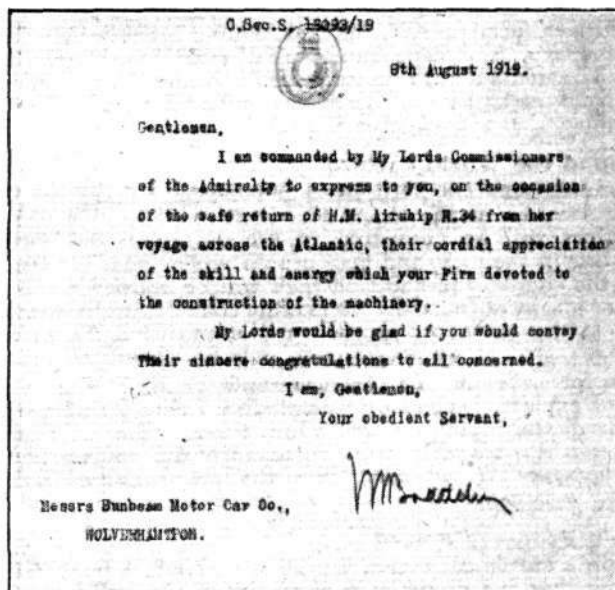
IN connection with the aerial mail from Folkestone to Cologne which has recently continued, it may be noted that the service was carried out by two squadrons of the R.A.F., one of which was equipped with D.H. 9A aeroplanes fitted with 400 h.p. "Liberty" engines, while the other was provided with D.H. 9 aeroplanes fitted with 230 h.p. Siddeley "Puma" engines. The former type of machine performed the complete journey in an average of 3 hours 14 mins., while the other equipped with a much less powerful type of machine took only 8 mins. longer. The average weight of mail carried per journey was over 160 lbs.

WITH the laudable idea of providing a further means of relaxation for the employees of the Sunbeam Motor Car Co., Ltd., a musical society has just been successfully started, and the results achieved are extremely encouraging. The society consists of three sections, orchestral, choral and a military band, and has a total membership at present of about 200. Much enthusiasm is being displayed, and it is confidently anticipated that the venture will prove a decided success.

THE Leeds depôt of Palmer Tyres, hitherto situate at 54, New Briggate, has been transferred to more commodious premises at York Road, North Street Corner, Leeds. Unfortunately, owing to labour difficulties, the necessary construction work at the new depôt is not quite finished,

and although for the time being the Leeds staff are working under difficulties, the manager of the depôt, Mr. Pepper, will use his best endeavours to give prompt attention to the requirements of all their friends in the trade.

A SCRAP of paper of which the Sunbeam Motor Car Co., Ltd., thinks quite a lot is the letter expressing the appreciation of the Lords Commissioners of the Admiralty of the



work done by the Sunbeam Co. in connection with the machinery of the R 34. The letter is reproduced herewith.

R80 to be Completed

As was anticipated the airship R80, now under construction by Messrs. Vickers (Ltd.) is to be completed. At the time when the Government stopped all work on rigid airships it was pointed out that as R80 was 95 per cent. completed, it would be cheaper to finish than to scrap, and this argument has apparently prevailed. Messrs. Vickers are bringing back to their construction shed many of the men who were temporarily diverted to other work, and it is hoped that R80 will be completed well before December.

Wireless on the London-Paris Route

THE Air Ministry makes the following announcement:—Wireless communication has now been established between the civilian aerodromes at Hounslow (London) and Le Bourget (Paris). Messages can be transmitted between 6.45 a.m. and 7 p.m., Greenwich time. Wireless communication on this route is only available for "Air Service Messages" (viz. messages regarding the arrival and departure of aircraft, weather reports and urgent messages asking for assistance, etc.) Messages of a private or personal nature will not be transmitted.

Information as to the handing in and delivery of messages, etc., can be obtained from the Civil Aviation Traffic Officer at the aerodrome.

Demobilising the W.R.A.F.

ON September 1 there were in the W.R.A.F. 14,345 women, of whom 343 were on the Rhine, 657 in France and Flanders, and 13,345 in England. Up to September 24 the numbers in England had been reduced to 3,298. The W.R.A.F.'s who have been doing duty with the Army of Occupation on the Rhine have been ordered home, and, of those in France and Flanders, some are returning at once, and others will be relieved as soon as skilled men are ready to be sent out.

The Royal Air Force wishes it to be known that women wearing the well-known blue uniforms are not part of its establishment unless they are also wearing the badge marks. The demobilised W.R.A.F. is allowed to wear her unbadged uniform, and many of the girls are doing so.

Air Raid Compensation

THE Air Raid Compensation Committee is dissolved, and the office at 13, Abchurch Lane, King William Street, E.C., will be closed as from next Wednesday. All correspondence regarding the business of the committee should be addressed after that date to the War Risks Insurance Office, 53, Cornhill, E.C.

Gift for Sheffield University

AT the concluding meeting of the Institute of Metals at Sheffield University, Mr. W. H. Allen, a member of the Council of the Institute, presented to the University a complete nine-cylindrical Le Rhone engine. In making the presentation, Mr. Allen said it was fitting that the city which had produced the steel used in the making of the engine—of which 3,000 had been made by his firm—should possess a specimen of the finished product. Mr. Allen predicted that engineers would ultimately achieve their ambition to produce an engine developing one horse-power per pound of weight.

Dr. Ripper, head of the Applied Science Department of the University, in accepting the gift, said that it would be to the students a striking example of inventive work and manipulative skill, as well as of the splendid work of the metallurgist.

A "Round the World" Race

AN ambitious competition is announced by the Aero Club of America in the shape of a race round the world. Competitors will be permitted to use as many machines as they like in the race, and may use dirigibles for all or any part of the course. In addition they will be allowed to use any other means of transport for making connections between aircraft to the extent of 10 per cent. of the total distance to be covered. Alternative routes will be given to competitors for crossing the Atlantic and Pacific. A committee of experts, headed by Commodore Louis Beaumont, president of the Flying Officers' Club, Paris, will start on a tour round the world shortly to arrange the routes and landing places. It is stated that the prizes offered will aggregate £200,000.

Fokker's Property Seized

FROM a statement issued by the Tax Office at Schwerin it appears that the property in Germany of the well-known aeroplane builder, M. Fokker, who is now staying in Germany, has been seized, owing to his failure to provide the 14,250,000 marks demanded by the taxation authorities as security against the exodus of capital from Germany.

AERONAUTICAL SPECIFICATIONS PUBLISHED

Abbreviations:—cyl.=cylinder; I.C.=internal combustion; m.=motors.

APPLIED FOR IN 1917

The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

Published October 2, 1919

19,130. H. LEITNER. Screw propellers. (131,933.)

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Published October 2, 1919

5,248. E. R. CALTHROP. Parachutes. (131,939.)
5,619. A. MOND. Doping aeroplane, etc., fabrics. (131,090.)
7,730. R. F. S. VALERI. Screw propeller. (131,951.)
10,663. G. H. THOMAS and B. C. HUCKS. Starting aeroplane engines. (131,962.)
11,149. D. J. MOONEY. Metal construction for aircraft. (131,969.)
11,979. A. V. ROE and Co. and R. CHADWICK. Hinged aerofoils. (131,975.)
12,271. SPERRY GYROSCOPE Co. Gyroscopic stabilisers. (131,979.)
12,524. G. B. HARRISON and A. L. RAWLINGS. Gyroscopic stabilisers. (131,987.)
12,622. G. A. ROSSITER. Gyroscopic compasses. (131,990.)
13,667. BLACKBURN AEROPLANE and MOTOR Co. and H. BOOTH. Flying boats. (132,002.)
14,129. J. L. TRAVERS. Flying-boats. (132,012.)
14,133. C. H. DAVIES. Aircraft framework. (132,013.)
14,136. A. G. HERRING and W. J. GOODING. Screw propellers. (132,014.)
14,266. H. N. WYLIE. Metal aircraft members. (132,025.)
14,267. H. N. WYLIE. Metal struts for aircraft. (132,026.)
14,472. A. J. T. IRELAND. Metal airscrews. (132,040.)
14,515. S. DIGGLE. Aerial propellers. (132,043.)
14,624. C. J. LAKE. Hulls for hydro-aeroplanes, etc. (132,050.)
15,341 and 15,342. A. ANZANI. I.C. engines. (132,070 and 132,071.)
16,120. G. H. E. WHITEWAY. Landing devices for aircraft. (132,092.)
16,369. H. N. WYLIE. Connecting metal aircraft members. (132,094.)
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